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Regulations and Non-Regulatory Revisions to State Implementation Plan: Maryland

Atlantic Environmental Associates, Inc.
Waltham, MA

Prepared for

Environmental Protection Agency
Research Triangle Park, NC

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Regulations and Non-Regulatory Revisions to State Implementation Plan: Maryland

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Regulations and Non-Regulatory Revisions to State Implementation Plan: Maryland

By

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Contract No. 68-02-3565

EPA Project Officer: Willis P. Beal

Prepared for

U.S ENVIRONMENTAL PROTECTION AGENCY
Control Programs Development Division
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

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16. ABSTRACT

This document has been produced in compliance with Section 110(h) of the Clean Air Act, as amended in 1977, which mandates periodic publication of State Implementation Plan (SIP) requirements. The first section of the document comprises the Federally approved SIP regulations. It consists of the EPA-approved State and/or local air pollution control regulations cited by reference in the *Federal Register*; regulations promulgated as of August 1, 1981 have been included in this document.

The present compilation constitutes an update of a previous documentation of regulations as of July 1, 1979. State and/or local air quality regulations which have not been Federally approved as of August 1, 1981, are not included. However, any omissions of regulations from this document in no way affects the ability of the respective Federal, State, or local agencies to enforce such regulations. A summary sheet of the regulatory revisions is provided to give a quick historical assessment of the changes.

The second part of the document contains the text of non-regulatory SIP revisions approved by EPA up to August 1, 1981, excluding notices or certifications of public hearings and technical support data. A complete tabulation of these revisions is also provided.

17. KEY WORDS AND DOCUMENT ANALYSIS

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This report has been reviewed by the Control Programs Development Division of the Office of Air Quality Planning and Standards, EPA, and approved for publication. Mention of trade names or commercial products is not intended to constitute endorsement or recommendation for use. Copies of the entire document are available for inspection and copying at EPA Headquarters (401 M Street SW, Washington, DC 20460), EPA's Office of Air Quality Planning and Standards (Room 826, 411 West Chapel Hill Street, Durham, NC 27701), and the appropriate EPA Regional Offices. Documents containing only the regulatory portions of each State Implementation Plan may be ordered for a nominal fee from the National Technical Information Services, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161.

PREFACE

This document has been produced in compliance with Section 110(h) of the Clean Air Act, as amended in 1977, which mandates periodic publication of State Implementation Plan (SIP) requirements. The first section of the document comprises the Federally approved SIP regulations. It consists of the EPA approved State and/or local air pollution control regulations cited by reference in the Federal Register; all regulations Federally promulgated as of August 1, 1981 have been included.

The present compilation constitutes an update of a previous documentation of regulations as of July 1, 1979.* State and/or local air quality regulations which have not been Federally approved as of August 1, 1981 are not included. However, any omissions of regulations from this document in no way affects the ability of the respective Federal, State or local agencies to enforce such regulations.

This document is not intended to provide a tool for determining the enforceability of any given regulation. Rather, it is intended to provide a comprehensive compilation of those regulations which are incorporated by reference into Title 40, Part 52, of the Code of Federal Regulations (CFR). The exclusion of a Federally approved regulation from this document does not diminish the enforceability of the regulation. Similarly, the inclusion of a given regulation in this document does not, in itself, render the regulation enforceable by either the State or EPA.

The regulations have been organized in this document according to the official State/local agency format. However, since State air quality regulations vary widely in their organization, content, and language, a standardized subject index has been added. The index listings consist of both pollutant and activity oriented categories to facilitate usage. For example, regulations which apply to copper smelters may be found under sulfur compounds (50.2), particulate matter process weight (50.1.1), or copper smelters (51.15). Federal regulations pertaining to a given State are not included herein but can be found under Title 40 Code of Federal Regulations, Part 52.

Additionally, a summary sheet of the regulatory revisions is included to provide a quick historical assessment of the changes. These summary sheets contain the date of submittal to EPA of each revision and the Federal Register publication date on which the revision was approved by EPA. A brief description of the regulation which was submitted is also included.

In accordance with the Act, the second part of the document contains non-regulatory SIP revisions approved by EPA up to August 1, 1981. All approved non-regulatory revisions listed under Identification of Plan in the CFR are included except notices or certifications of public hearings, and technical support data. Non-regulatory submittals which have only received EPA approval on selected elements are included in their entirety with an accompanying indication of the status of Federal actions on the non-approved elements. The non-regulatory revisions have been organized in this document according to the date of publication of EPA approval in the Federal Register. For historical completeness, a complete tabulation of these revisions is provided at the beginning of this second section.

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*Regulations and Non-Regulatory Revisions to State Implementation Plan: Maryland, EPA-450/2-80-027, prepared under Contract 68-02-3388, July 31, 1980.

SUMMARY OF
EPA-APPROVED REGULATORY REVISIONS TO STATE OF MARYLAND SIP
BETWEEN JULY 1, 1979 AND JULY 31, 1981

Publication of Approval	Submittal Date	Page	Document Description
07/03/80	02/10/77	45FR27935	Amendments to Sections .01 (Definitions), .03 (Air Pollution Episode System), .06 (Test Methods) and .12 (Emission Test Methods), and deletion of Section .08 (Penalties and Plans for Compliance of Regulation 10.03.35 (Regulations Governing Air Pollution Control in the State of Maryland); amendments to Table 1 (Emission Standards for New Fuel Burning Equipment) of Maryland Regulations 10.03.36 through 10.03.41; amendments to Section .04 (Control and Prohibition of Gas and Vapor Emissions) and .06 (Control and Prohibition of Installations and Operations); and deletion of Section .03E (Process Weight Requirements) and .07 (Transition from Previous Regulations) of Maryland Regulation 10.03.38 (Regulation Governing Air Pollution Control in the Metropolitan Baltimore AQCR); amendments to Section .01 (Control of Open Fires) and .04 (Control of Gas and Vapor Emissions); and deletion of Sections .03E (Process Weight Requirements) and .07 (Transition from Previous Regulations) of Maryland Regulation 10.03.39 (Regulation Governing Air Pollution Control in the Maryland Portion of the National Capital Interstate AQCR) and amendments to Maryland Regulation 10.03.35 through 10.03.41 inclusive which supplement the English System measurement with equivalent metric units.
08/12/80	01/19/79	45FR53474	Amendments to Sections .01, .07, and .11 of Maryland Regulation 10.18.01 and amendments to Sections .03D, .03F, .03H, .06I of Maryland Regulation 10.18.04 and 10.18.05.
03/18/81	09/26/79	46FR17145	Amendments to Sections .01, .04, .11 of MD Regulations 10.18.01; Amendments to Section .02 of MD Regulations 10.18.04 and 10.18.05.

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Maryland State Department of Health and Mental Hygiene
301 West Preston Street
Baltimore, Maryland 21201

(As Amended Through: December 17, 1974)

10.03.35 Regulations Governing the Control of Air Pollution in the State of Maryland

Pursuant to the authority conferred upon the Secretary of Health and Mental Hygiene by Article 43, Section 697 of the Annotated Code of Maryland, 1957 Edition, and Supplement, the following regulations governing the control of air pollution in the State of Maryland or in various areas are hereby established as requirements of the Department of Health and Mental Hygiene.

PREFACE

The Air Quality Control Act of the State of Maryland declares as policy the maintenance of that degree of purity of the air resources of the State which will protect the health and welfare and property of the people of the State. It requires that the Department shall assume responsiblity for the jurisdiction over emissions into the air, shall prepare regulations for control of air pollution, including the establishment of standards for emissions and ambient air quality, for adoption by the Secretary of Health and Mental Hygiene. Enforcement of the standards is the responsiblity of the Department in all areas, using the facilities and services of local agencies within the areas to the maximum extent possible.

Air Pollution Control regulations consist of two (2) parts. These regulations, 10.03.35, are general and pertain to all areas of Maryland. Additional numbered regulations in this series pertain specifically to areas specified therein.

___01 DEFINITIONS

___01A "Air Pollution" shall mean the presence in the outdoor atmosphere of substances in quantities, having characteristics and being of a duration which, from any single source or in combination with other sources, are, or may be predicted with reasonable certainty to be injurious to human, plant or animal life or to property, or which unreasonably interfere with the proper enjoyment of the property of others by reason of the emission of odors, solids, vapors, liquids, or gases, throughout the State and in such areas of the State as are affected thereby.

___01B "Atmospheric Stagnation" shall mean a measure of the inability of the atmosphere to adequately dilute and disperse pollutants emitted into it, based on values of specific meteorological parameters of the microscale, mesoscale and microscale features. This definition would include a national, regional or Department forecasted air stagnation advisory (ASA), describing an atmospheric stagnation which satisfies the criteria established by the National Meteorological Center as set forth in Environmental Science Service Administration Technical memorandum

WBTM-NMC 47 published by the Department of Commerce, May, 1970.

___01C "Char-Broiling" shall mean that process by which meat is cooked by radiant heating while exposed to a high temperature heat source.

___01D "Chemical and Allied Products Industries" shall mean establishments engaged in the manufacture of (1) basic chemicals such as acids, alkalies, salts, industrial gases and organic chemicals, (2) chemical products to be used in further manufacturing such as synthetic fibers, plastics, dry colors and pigments, (3) finished chemical products to be used for ultimate consumptions such as drugs, cosmetics, soap, paints, fertilizers and explosives. Standard Industrial Classification, Major Group 28.

___01E "Coefficient of Haze" (COH or COHS) shall mean that quantity of particulate material which produces an optical density of 0.01 when measured by light transmission at 400 millimicrons and when compared to the transmission of dust-free filter paper taken as 100%. Smoke concentration shall be expressed in terms of the number of COH units per 1000 linear feet of air drawn through the filter.

___01F "Confined Source" means an installation that discharges into the atmosphere through a stack, duct, hood, flue, or other conduit.

___01G "Control Equipment" shall mean any device or contrivance which prevents or reduces emissions.

___01H "Control Officer" shall mean a Deputy State Health Officer of the Department, the Commissioner of Health of the City of Baltimore, or any employee of the Department designated by the Commissioner.

___01I "Council" shall mean the Air Quality Control Advisory Council.

___01J "Department" shall mean the Department of Health and Mental Hygiene.

___01K "Distillate Fuel Oil" shall mean all other American Society for Testing and Materials numbered fuel oils other than residual.

___01L "Emergency" shall mean a sudden, unexpected and unforeseen condition of such public gravity and exigency as to require immediate action, or a condition which is predicted with reasonable certainty to require immediate action to carry out the purposes of this subtitle.

___01M "Emissions" shall mean any substance, other than water in an uncombined form, discharged directly or indirectly into the atmosphere including but not limited to odors, particulate matter, vapors, or gases or any combination thereof.

___01N "Fluorides" shall mean any matter containing the element fluorine in a combined form.

___01O "Fuel Burning Equipment" shall mean any boiler or furnace which has the primary function of producing hot air, hot water, or steam through indirect heat transfer from the burning of fuels.

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__01P "Glass, Clay and Concrete Products Industries" shall mean establishments engaged in manufacture of glass, glassware, textile fibers, glass insulation, wool, structured clay products, concrete products, gypsum and plastic products, lime abrasives and asbestos. Standard Industrial Classification, Major Group 32.

__01Q "Grill" shall mean a perforated framework used to broil meat. Grill area shall be determined by the inside dimensions bordering the retaining framework.

__01R "Hazardous Material" shall mean those substances (such as some types of explosives) which are dangerous and should be destroyed by open burning under controlled conditions when it has been established that disposal by land filling or burning in an incinerator perpetuates or increases the danger involved.

__01S "I.I.A. Standards" shall mean the standards published by the Incinerator Institute of America in the document entitled "I.I.A. Incinerator Standards" (1968).

__01T "Incinerator" shall mean any equipment, device or contrivance used for the destruction of garbage, rubbish or other wastes by burning.

__01U "Installation" shall mean any article, machine, equipment, or other contrivance, including but not limited to emission control equipment, processing equipment, manufacturing equipment, fuel burning equipment, incinerators, or any equipment, or construction, capable of generating, causing or reducing emissions.

__01V "Interruptible gas service" shall mean a gas service negotiated between the user and a utility company under the jurisdiction of the Maryland Public Service Commission in which the utility company reserves the right to interrupt the gas supply after notification or to limit the gas supply by automatic interruption.

__01W "Multiple-Chamber Incinerator" shall mean any article, machine, equipment, contrivance, structure or part of a structure consisting of three or more refractory-lined combustion chambers in series, physically separated by refractory walls and interconnected by gas passage ports or ducts that is used to dispose of waste materials by burning.

__01X "New source performance standard source" means any one of the following sources:

(1) Steam generator of more than 250 million B.T.U. (264 gigajoules) per hour heat input;
(2) Incinerator capable of charging more than 50 tons (45,000 kg) of refuse per 24-hour day;
(3) Portland cement plant;

(4) Sulfuric acid plant;
(5) Nitric acid plant;
(6) Asphalt batch plant;
(7) Petroleum refinery;
(8) Petroleum storage having a capacity of 40,000 gallons (151 m^3)
(9) Secondary lead smelter;
(10) Secondary brass and bronze ingot plant;
(11) Iron and steel plant;
(12) Sewage sludge incinerator;
(13) Coal preparation plant;
(14) Primary copper smelter;
(15) Primary zinc smelter;
(16) Primary lead smelter;
(17) Primary aluminum reduction plant;
(18) Wet process phosphoric acid plant;
(19) Superphosphoric acid plant;
(20) Diammonium phosphate plant;
(21) Triple superphosphate;
(22) Granular triple superphosphate storage facility;
(23) Ferralloy production facility; and
(24) Electric arc furnace.

___01Y "Odor" shall mean that property of an emission which stimulates the sense of smell.

___01Z "Offal" shall mean the refuse from slaughtered or salvageable dead animals, crustaceans, or any other animal form, such as but not limited to heads, feet, viscera, hair, blood, feathers, bones, scales or oils.

___01AA "Opacity" shall mean the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

___01AB "Open Fire" shall mean a fire where any material is burned in the open or in a receptacle other than a furnace, incinerator, or other equipment connected to a stack or chimney.

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___01AC "Paper and Allied Products Industries" shall mean establishments engaged in manufacturing wood pulp from wood or other materials and the manufacture of paper, paperboard and building paper. Standard Industrial Classification, Major Group 26.

___01AD "Particulate Matter" shall mean any material, except water in uncombined form, that is or has been airborne, and exists as a liquid or a solid at standard condition.

___01AE "Person" shall mean any individual, group of individuals, firm, partnership, voluntary association, or private, public or municipal corporation, or political subdivision of the State, responsible for the use of property.

___01AF "Petroleum Refining and Related Industries" shall mean establishments engaged in petroleum refining, the manufacture of paving and roofing materials from petroleum products and compounding paving and building materials and petroleum products. Standard Industrial Classification, Major Group 29.

___01AG "Plan for Compliance" shall mean a schedule of actions submitted by the violator and approved by the Secretary, upon recommendation of the Department.

___01AH "Preparation" shall mean skinning, cutting, grinding, cooking, or drying, or any other operation necessary for the preparation of offal prior to the completion of sterilization.

___01AI "Prevention of significant deterioration source" means any one of the following sources:

(1) Coal cleaning plant;
(2) Kraft pulp mill;
(3) Portland cement plant;
(4) Primary zinc smelter;
(5) Iron and steel mill;
(6) Primary aluminum ore reduction plant;
(7) Primary copper smelter;
(8) Municipal incinerator capable of charging more than 250 tons (230,000kg) of refuse per 24-hour day;
(9) Sulfuric acid plant;
(10) Petroleum refinery;
(11) Lime plant;
(12) Phosphate rock processing plant;
(13) By-product coke oven battery;
(14) Sulfur recovery plant;
(15) Carbon black plant (furnace process);
(16) Primary lead smelter;
(17) Fuel conversion plant;
(18) Feralloy plant; and
(19) Fossil-fuel steam electric plant of more than 1000 million BTU (1055 gigajoules) per hour heat input.

___01AJ "Primary Metals Industries" shall mean establishments engaged in the smelting, refining, sintering and alloying of ferrous and non-ferrous metals from ore, pig or scrap; and the manufacture of castings, forgings, powdered metals and other basic products of ferrous and non-ferrous metals, including the production of coke. Standard Industrial Classification, Major Group 33.

___01AK "Process Weight" shall mean the total weight of all materials introduced into any specific process which may cause emissions. Solid fuels charged will be considered as part of the process weight, but liquid and gaseous fuels and combustion air will not.

___01AL "Process Weight Per Hour" shall mean the rate established as follows:
For continuous or long-run steady-state operations, the total process weight for the entire period of continous operation or for a typical portion thereof, divided by the number of hours of such period or portion thereof.
For cyclical or batch operations, the total process weight for a period that covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such a period.
Where the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this definition, the interpretation that results in the minimum value for allowable emission shall apply.

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___01AM "Public Collection of Refuse" shall mean the service provided by any governmental agency or commercial enterprise for the pick-up on a regularly scheduled basis of refuse from groups of individual homes, businesses, apartment buildings or other establishments.

___01AN "Reduction" shall mean any heated process, including rendering, cooking, drying, dehydrating, acidulating, digesting, evaporating and protein concentrating.

___01AO Residual Fuel Oil" shall mean that fuel oil that meets the specifications of the American Society for Testing and Materials for Nos. 4, 5, or 6 (Bunker "C") oils or crude oils when used as a fuel.

___01AP "Ringelmann Smoke Chart" shall mean the chart published and described in the latest applicable U.S. Bureau of Mines Information Circular, used in estimating the light obscuring power of smoke. Any other method for grading smoke which is approved by the Department as the equivalent of the Ringelmann Smoke Chart may be substituted therefore.

___01AQ "Rotary Cup Burner" shall mean a fuel oil burner which employs a rotating cup to atomize and mix fuel oil with air for combustion.

___01AR "Secretary" shall mean the Secretary of the Department of Health and Mental Hygiene of the State of Maryland.

___01AS "Source" shall mean any property, real or personal, or person contributing to air pollution.

___01AT "Standard Conditions" shall mean at a temperature of 77° Fahrenheit (25° Celsius) and a pressure of 29.92 inches (760mm) of mercury.

___01AU "Unconfined source" means an installation that causes emissions which are not enclosed in a stack, duct, hood, flue, or other conduit but which escape into the atmosphere through openings such as windows, vents or doors, ill fitting closures, or poorly maintained equipment.

___01AV "Violator" shall mean a person in violation of regulations or standards established herein.

___02 DELINEATION OF AREAS

Area I shall mean the Western Maryland Area of the State comprising the Counties of Allegany, Garrett and Washington.
Area II shall mean the Central Maryland Area of the State comprised of Frederick County.
Area III shall mean the Baltimore Metropolitan Area of the State comprising Baltimore City, and the Counties of Anne Arundel, Baltimore, Carroll, Harford and Howard.
Area IV shall mean the Washington Metropolitan Area of the State comprising the Counties of Montgomery and Prince George's.
Area V shall mean the Southern Maryland Area of the State comprising the Counties of Calvert, Charles and St. Mary's.
Area VI shall mean the Eastern Shore Area of the State comprising the Counties of Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico and Worcester.

___03 AIR POLLUTION EPISODE SYSTEM

___03A General Requirements

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1. An Air Pollution Episode System is to establish standards and procedures to be followed whenever pollution of the air has the potential of reaching an emergency condition if allowed to go unchecked.

2. Whenever the Secretary or the Governor determines the accumulation of air pollution may attain, is attaining or has attained a level or levels considered injurious to human health, conditions of air pollution designated as Forecast, Alert, Warning and Emergency shall be declared. In making a determination, the Secretary or the Governor shall be guided by the criteria defined in subsection ___03H.

3. To assure compliance with this regulation, sources designated by the Secretary shall submit standby emission reduction plans in accordance with subsection ___03C. In accordance with such standby emission reduction plans, standby orders as specified in subsection ___03D shall be implemented as a designated level is reached.

4. Nothing contained in this regulation shall be construed as allowing, permitting or maintaining an emission from any installation in the State of Maryland to be subject to a lesser degree of control as may be required for existing or new regulations adopted by the Secretary.

5. During air pollution episodes, sources having an interstate air pollution potential shall be governed by the following:

   a. Air pollution emissions within the jurisdiction of the State of Maryland must be controlled to the extent that neighboring state requirements shall not be compromised.

   b. Provisions of this subsection shall apply to installations within the State when a receptor state demonstrates, to the satisfaction of the Secretary, that a source or sources within the State of Maryland is substantially affecting established emergency episode criteria in the receptor state.

___03B Air Pollution Episode Criteria

1. A condition justifying the proclamation of a Forecast, Alert Warning or Emergency shall be deemed to exist whenever the Secretary or the Governor determines that the accumulation of the State may attain, is attaining or has attained levels which could, if such levels are sustained or exceeded, lead to a threat to the health of the public. In making this determination, the Secretary shall be guided by the specified conditions in subsections ___03B2, ___03B3, and ___03B4.

2. Episode Criteria

   a. Forecast Stage

   An internal administrative watch shall be declared by the

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Department during the Forecast Stage whenever the Federal or Department meteorologist issues a forecast indicating an atmospheric stagnation will cover any substantial portion of the State of Maryland for twelve hours or more. Such a weather forecast will indicate meteorological conditions which are expected to inhibit pollutant dispersion. The internal watch shall be in effect for those areas covered by the weather forecast and it shall continue throughout the atmospheric stagnation will take the form of:

(1) A high air stagnation advisory including any substantial part of the State of Maryland issued by the Federal Government.

(2) A forecast by the Department meteorologist indicating localized meteorological conditions which will inhibit dispersion for an extended period of time.

b. Alert Stage

An Alert shall be declared by the Secretary or his designee when any one or more of the following pollutant levels is attained concurrent with:

(1) A judgement by the Department that the pollutant level is representative of air quality in a significant portion of the region. The Department shall consult the air pollution control agencies of the affected jurisdictions to help evaluate local situations.

(2) Meteorological conditions are such that pollutant dispersion is expected to be inhibited for twelve or more hours.

	Pollutant	Level
(a)	Sulfur Dioxide	0.3 ppm 24 hr. average
(b)	Particulate Matter	3.0 COH's 24 hr. average
(c)	Sulfur Dioxide & Particulate Matter	Combined product of 24 hr. SO_2 and COH's equal to 0.2
(d)	Carbon Monoxide	15 ppm 8 hr. average
(e)	Photochemical Oxidant	0.1 ppm 1 hour average
(f)	Nitrogen Dioxide	0.6 ppm 1 hour average or 0.15 ppm 24 hour average

c. Warning Stage

A Warning shall be declared by the Secretary

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or his designee when any one or more of the following pollutant levels is attained concurrent with:

(1) A judgement by the Department that the pollutant level is representative of air quality in a significant portion of the region. The Department shall consult the air pollution control agencies of the affected jurisdictions to help evaluate local situations.

(2) Meteorological conditions are such that pollutant dispersion is expected to be inhibited for twelve or more hours.

	Pollutant	Level
(a)	Sulfur Dioxide	0.6 ppm 24 hr. average
(b)	Particulate Matter	5.0 COH's 24 hour average
(c)	Sulfur Dioxide & Particulate Matter	Combined product of 24 hr. SO_2 and COH's equal to 0.8
(d)	Carbon Monoxide	30 ppm 8 hr. average
(e)	Photochemical Oxidant	0.4 ppm 1 hr. average
(f)	Nitrogen Oxide	1.2 ppm 1 hour average or 0.3 24 hour average

d. Emergency Stage

An Emergency shall be declared by the Governor of the State of Maryland when any one or more of the following pollutant levels is attained concurrent with:

(1) A judgement by the Department that the pollutant level is representative of air quality in a significant portion of the regions. The Department shall consult the air pollution control agencies of the affected jurisdiction to help evaluate local situations.

(2) Meteorological conditions are such that this condition can be expected to continue for twelve or more hours.

	Pollutant	Level
(a)	Sulfur Dioxide	0.8 ppm 24 hr. average
(b)	Particulate Matter	7.0 COH's 24 hr. average
(c)	Sulfur Dioxide & Particulate Matter	Combined product of 24 hr. SO_2 and COH's equal to 1.2

(d)	Carbon Monoxide	40 ppm 8 hr. average
(e)	Photochemical Oxidant	0.5 ppm 1 hr. avg.
(f)	Nitrogen Dioxide	1.6 ppm 1 hr. avg. or 0.4 ppm 24 hr. avg.

e. Termination

Termination of all stages of the Air Pollution Episode System shall be called by the Secretary or his designee or the Governor of the State of Maryland based on:

(1) Consultation with the Federal or Department meteorologist which indicates that the atmospheric conditions justify termination and

(2) Appropriate reduction in pollutant levels below the Alert Stage criteria.

3. An episode condition has been reached if ambient air quality is measured to be in excess of the designated levels at any monitoring site in the State of Maryland, except when elevated pollution levels exist in an area that may be reduced by controlling emissions from one or a few individual sources contributing to the condition. Such a localized condition shall be known as an incident, and, the involved individual sources shall be subject to the same provisions as listed for the abatement of episodes.

4. The Alert, Warning, and Emergency stages may be activated on the basis of deteriorating air quality alone; i.e., an atmospheric stagnation forecast need not be in effect. (Subject to the conditions specified in subsections ___03B2b; ___03B2c; and ___03B2d.)

___03C Standby Emissions Reduction Plans

1. Any person responsible for the operation of an installation specifically identified in Table I or II or III of this section shall, when requested by the Department in writing, prepare standby emission reduction plans, consistent with good industrial practice and safe operating procedures, for reducing emissions creating air pollution during periods of Alert, Warning and Emergency. Standby emission reduction plans shall be designed to reduce or eliminate emissions in accordance with the objectives set forth in Tables I, II, and III as applicable.

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2. Any person responsible for the operation of a source of emissions not specifically identified under subsection ____ 03C1 shall, when requested by the Department in writing, prepare standby emission reduction plans, consistent with good industrial practice and safe operating procedures, for reducing emissions creating air pollution during periods of Alert, Warning and Emergency. Standby emission reduction plans shall be designed to reduce or eliminate emissions in accordance with the objectives set forth in Tables I, II and III as applicable.

3. Standby emission reduction plans as required in subsections __03C1 and ___03C2 shall be in writing and show the source of emissions, the approximate amount of reduction of emissions to be achieved, the time necessary to achieve the reduction after being notified to implement the plan, and a description of the manner in which the reduction will be achieved during an Alert, Warning and Emergency period in accordance with the objectives set forth in Table I, II and III. Such plans shall be submitted in the form specified by the Department.

4. During a condition of Alert, Warning or Emergency, standby emission reduction plans as required by this section shall be made immediately available on the premises to any person authorized to enforce regulations promulgated under terms of the Air Quality Control Act.

5. Standby emission reduction plans as required by this section shall be submitted to the Department upon request within 30 days of the receipt of such request; such standby emission reduction plans shall be subject to review and approval by the Department If, in the opinion of the Department, such standby emission reduction plans do not carry out the objectives set forth in Tables I, II and III, the Department may disapprove of said standby emission reduction plans, state its reason for disapproval and recommend specific amendments to the proposed standby emission reduction plans. The revised plan shall be re-submitted within a time period specified by the Department. Any person aggrieved **by** an order requiring the preparation of a revised plan shall be entitled to a hearing, upon written request filed within 10 days after the receipt of the order. Where such a hearing is requested by the aggrieved, it shall be held pursuant to Article 43, Section 698. If any person fails to submit a standby emission reduction plan within the time period specified, or which in the opinion of the Department does not carry out the objectives set forth in Tables I, II and III, the Department shall promulgate such standby emission reduction as will meet the objectives stated in Tables I, II and III herein. Such plan shall thereafter be the standby emission reduction plan which the person responsible shall put into effect upon the declaration by the Secretary or the Governor of an air pollution Alert, Warning or Emergency.

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___03D Control Requirements and Standby Orders

The following are standby orders which are hereby established according to the specific action stages of the Air Pollution Episode System which may be deemed appropriate for use by the Secretary or the Governor upon the declaration that specified stage has been reached. When announced by the Secretary or the Governor, through public communications media or otherwise that the specified stage of the Air Pollution Episode System exists, the following respective actions shall be taken when requested in the geographical areas included in the episode announcement.

1. Forecast Stage

   a. Specified open burning and all public insecticide and herbicide spraying shall cease, if so requested by the cognizant local governmental Control Officer in public announcements or otherwise. ✓

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2. Alert Stage

   a. No open burning or public pesticide or herbicide spraying shall be carried on.

   b. All on-site incineration of refuse shall be eliminated. Any person responsible for a source of air pollution as set forth in Table 1 in subsection ___03C shall take all Alert Stage actions as required for such source of air pollution; and shall particularly put into effect the standby emission reduction plan for an Alert Stage. Such persons shall prepare to put into effect the standby emission reduction plan for an air pollution Warning.

3. Warning Stage

   a. No open burning or public pesticide or herbicide spraying shall be carried on.

   b. All incineration of refuse shall be eliminated.

   c. Any person responsible for a source of air pollution as set forth in Table II in subsection ___03C shall take all Warning stage actions as required for such source of air pollution; and shall particularly put into effect the standby emission reduction plan for a Warning stage. Such persons shall prepare to put into effect the standby emission reduction plan for an air pollution Emergency.

4. Emergency Stage

   a. The Governor shall announce that an air pollution Emergency has been declared and specify appropriate action to be taken. Radio

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and television stations shall be requested to repeat the declaration at least once per hour.

b. No open burning or public pesticide or herbicide spraying shall be carried on.

c. All incineration of refuse shall be eliminated.

d. Any person responsible for the operation of a source of air pollution as set forth in Table III in subsection ___03C shall take all emergency stage actions as specified for such source of air pollution; and shall particularly put into effect the standby emission reduction plans for an air pollution Emergency stage.

e. All manufacturing establishments except those included in subsection ___03D4d shall institute such action as will eliminate or result in maximum reduction of emissions from their operations by ceasing, curtailing, or postponing operations which cause emissions, to the extent possible without causing injury to persons or damage to equipment. ✓

f. All places of business and employment and education described below shall immediately cease operations, unless special permission is obtained from a police officer or a governmental public health agency.

  (1) Mining and quarrying of non-metalic materials.

  (2) All contract construction work except that which must proceed to avoid physical harm, hazardous conditions or excessive economic loss. ✓

  (3) Wholesale trade establishments i.e., places of business primarily engaged in selling merchandise to retailers, to industrial, commercial, institutional or professional users, or to other wholesalers, or agents in buying merchandise for or selling merchandise to such persons or companies.

  (4) All offices of Federal, local, county, and State government, except to the extent that such offices must continue to operate in order to carry out the requirements of this plan, and those offices which provide essential services for maintenance of public health and safety.

  (5) All retail trade establishments except pharmacies and stores primarily engaged in the sale of foods.

  (6) Banks, credit agencies other than banks, securities and commodities brokers, dealers, exchanges and services, offices of insurance carriers, agents and brokers, real estate offices.

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(7) Wholesale and retail laundries; laundry services and cleaning and drying establishments; photographic studios; beauty shops; barber shops and shoe repair shops.

(8) Advertising offices, consumers credit reporting, adjustment and collection agencies, duplication, addressing, blueprinting; photocopying, mailing list, and stenographic services; equipment rental services; garages.

(10) All wholesale and retail handling of gasoline.

(11) Establishments rendering amusement and recreation services including motion picture theaters.

(12) Elementary and secondary schools, colleges, universities, professional schools, junior colleges, vocational schools, public and private libraries.

(13) Others deemed necessary to protect the public health and welfare and as announced by the Governor.

g. All aircraft will be grounded with the exception of emergency flights.

h. No person shall use a motor vehicle, with the exception of emergency and governmental vehicles. Persons will be allowed to return to their residences from work or location other than their residences and to make other trips essential to protect health and safety.

i. Regulate and halt rail, bus and ship travel and all other forms of transportation where possible and allowing appropriate times for curtailing or ceasing operations.

j. Stop sources of pollution involved in military training, smoke school training, fire department training, rocket fuel testing, etc.

k. Every person shall do such acts or refrain from such acts as shall be specified in the Governor's declaration that an air pollution Emergency exists and as shall be specified in other announcements made or authorized by the Governor.

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___04 AMBIENT AIR QUALITY STANDARDS

___04A Definitions. For purposes of the ambient air quality standards in this section ___04 only, the following definitions shall apply.

1. Sulfur Oxides

Sulfur oxides include sulfur dioxide, sulfur trioxide, their acids, and the salts of their acids. For purposes of these ambient air quality standards, measurements of sulfur dioxide, by the methods specified herein, shall be taken to indicate the concentration of sulfur oxides.

2. Suspended Particulate Matter

Suspended particulate matter means the substance collected from the atmosphere by use of the measurement procedures prescribed herein for suspended particulate matter.

3. Non-methane Hydrocarbons

Non-methane hydrocarbons are a class of organic compounds, excluding methane, whose molecules consist primarily of atoms of hydrogen and carbon and exist in the ambient air in the gaseous state. Specifically excluded are hydrocarbons and other organic compounds associated with suspended particles in the atmosphere. For purpose of these air quality standards, non-methane hydrocarbons shall be taken to be the difference between the reported total hydrocarbons and methane values measured by the methods specified herein.

4. Photochemical Oxidants

Complex photochemical reactions involving non-methane hydrocarbons, oxides of nitrogen and sunlight, occurring in the ambient air, result in the formation of photochemical oxidants. For purposes of these ambient air quality standards, the measurement of ozone, the predominant constituent of these oxidants, by the method(s) specified herein shall be taken to indicate the concentration of photochemical oxidants.

___04B Precepts.

1. It is known that concentrations of air pollutants above certain levels are harmful to the health of man. However, the threshold level at which adverse effects on man's health begin are not known with precision. It must be presumed that adverse effects over a long time period take place at concentrations lower than those now known to produce adverse effects over short time periods. Therefore, in establishing air quality standards, it is prudent to provide for margins of safety in reaching conclusions based on such data as are available which relate health effects to pollutant levels.

2. An ambient air quality standard which would result in avoidable degradation of air quality is in conflict with applicable State law.

3. The ambient air quality standards set forth herein, represent goals expressed in terms of limits on the duration and concentration of pollutants in the atmosphere which are not to be contravened. The ambient air quality standards shall be achieved through application, under provisions or laws or regulations or otherwise, of ways and means for reducing pollutant concentrations including but not limited to removal of air pollutants from exhaust gas streams, fuel and process material changes, equipment changes, and land use management.

___04C Primary Ambient Air Quality Standards for All Substances Which May Cause Air Pollution and Control Measures To Be Required.

1. The primary ambient air quality standards for all substances which may cause air pollution shall be those lowest concentrations attainable by application of all reasonably available ways and means for reducing pollutant concentrations in the ambient air. In situations of time and place wherein the lower concentrations of any substance in the "more adverse range" as set forth herein are not exceeded, or when there is no standard for the "more adverse range", the "serious level" is not exceeded, all necessary ways and means shall be required for minimizing increases in concentrations of such substances in the ambient air, to the end that said concentrations shall not be exceeded in the future.

2. No statement, numerical standard, or time limit, contained elsewhere in ambient air quality standards shall be interpreted as mitigating in any way the necessity for and the reasonableness of applying all reasonably available ways and means for reducing pollutant concentrations in the ambient air.

___04D Secondary Ambient Air Quality Standards.

1. General

Secondary ambient air quality standards are presented in two categories: the more adverse range and the serious level. The concentrations denoting each category for various pollutants are presented in Table 3.

2. Air Pollution Control Measures To Be Required in the More Adverse Range. When ambient air concentrations of any pollutant listed Table 3 are in the more adverse range, as set forth in Table 3, the application of all necessary ways and means for reducing such concentrations shall be required and the time schedule for their implementation shall be based on the premise that the pollutant concentrations are progressively to be reduced to the lower levels or less as set forth in Table 3, within the shortest reasonable time. Such reasonable time should

not exceed seven years or such shorter time as may be specified under provisions of the Federal Clean Air Act.

3. Air Pollution Control Measures To Be Required at the Serious Level. When ambient air concentrations of any pollutant listed in Table 3 exceed the serious level, as set forth in Table 3, the application of all necessary ways and means shall be required for reducing such concentrations. The ways and means required and the time schedule for their implementation shall be based on the premise that the pollutant concentrations are progressively to be reduced to levels lower than the serious level concentrations set forth in Table 3 in the shortest possible time. If ambient air concentrations exceed the serious levels specified in Table 3 as of the year 1971, such concentrations should be reduced to less than the serious levels by not later than the end of calendar year 1974. If, in the future, ambient air concentrations first exceed the serious level, such shortest time should not exceed three years from the year in which the serious level is first exceeded, or such shorter time, if any, as may be required under provisions of Federal law or regulations. In determining the ways and means to be required for reducing pollutant concentrations, matters of economics and private interests and other factors shall be subordinate considerations to the necessity of achieving the standards, for protection of the public health. Additionally, if standards have been adopted for the more adverse range, measures for reducing concentrations of the pollutant further below the serious level shall be instituted in accordance with provisions of paragraph ___04D2.

4. Measurement of Ambient Air Quality to Compare to the standards.

   a. The method of measurement, including reporting of measurements, for each pollutant listed in Table 3 shall be the method(s) specified in 40 CFR 50; 36 FR 22384, Nov. 25, 1971, and any later applicable amendments and the methods manual entitled "Standard Methods for the Determination of Air Pollution Measurements made at Ambient Air Sampling Stations in the State of Maryland", as developed by the Bureau of Air Quality Control of the Department. Other methods may be used if they have been demonstrated to be equally or more specific, accurate, sensitive, and reproducible, and if first approved by the Department. Other less specific methods may be used provided a relationship is developed by the user between the results obtained by such method and the method specified and provided that the results are interpreted in terms of equivalent to those that would be expected using the listed methods, or other equally or more specific, accurate, sensitive, reproducible methods, and provided said relationship is approved by the Department.

b. Number and Duration of Measurements. Pollutant measurements determined by the methods specified may be determined either by operation of cumulative type samplers or by continuous monitoring instruments. Specific definitions of measurement period values and statistical methods to be used to obtain levels for comparison to the standards are as indicated in the following appropriate subsections.

(1) Cumulative type pollutant measurements.

a. Daily average levels shall be on a midnight to midnight EST period with a minimum sampling frequency of every sixth day for each specific date starting January 4, 1972. Samples may be taken on a more frequent schedule provided that samples are also taken on the specified dates.

b. The annual arithmetic mean shall be based on at least 75% of the possible valid daily (24 Hour) values obtainable at a location under previously specified sampling schedule, adequately distributed through the year to adequately reflect the mean of 365 possible observations. Other statistical procedures may be used to evaluate the data in order to determine probable values of missing data, if the methods have been previously approved by the Department.

(2) Continuous monitoring instruments

The primary reportable pollutant value for all measurements determined by a continuous monitoring instrument shall be the hourly value; other statistical averages for the averaging times specified in the following subparts may be obtained by appropriately processing the hourly value. A valid hourly average level shall be based upon at least 58% of the possible data obtainable from the system during the hour.

b. A valid 3 hr. value shall be the arithmetic average of at least 2 of the possible 3 hourly values during any 3 hour period.

c. A valid 8 hr. value shall be the arithmetic average of at least 6 of the possible 8 hourly values during any 8 hour period.

d. A valid daily (24 hr.) value shall be the arithmetic average of at least 18 of the possible 24 hourly values during a day (12 midnight to 12 midnight EST).

e. A valid annual average shall be the arithmetic average of at least 65% of the possible hourly values, uniformly distributed throughout the calendar year. Less values could be used to compute means, provided it can be shown by acceptable statistical analysis that these means are valid estimates.

c. Location Measurements

Measurements of air pollutant may be made at any place where air pollution could exist.

__04E Secondary Ambient Air Quality Standards for Fluorides.

1. Ambient air quality standards for fluorides at the more adverse and serious levels shall be those concentrations in the ambient air which result in the following values being exceeded:

   a. Vegetable Crops:

   Vegetable tissue intended for human use, trimmed as normally marketed or consumed shall not exceed 20 micrograms F per gram dry tissue in unwashed samples.

   b. Field Crops:

   (1) Middle aged fully expanded leaves of corn or sorghum intended for grain shall not, at time of tasseling, exceed 35 micrograms F per gram dry tissue in washed samples.

   (2) Any field crops intended for market as hay, silage or forage shall not exceed 40 micrograms F per gram dry tissue in unwashed samples as marketed.

   (3) Other field crops at any stage of growth shall not exceed 50 micrograms F per gram dry tissue in washed samples.

   c. Cattle Forage:

   (1) Running averages of 12 monthly samples of forage or hay or silage grown in the area as feed shall not exceed 40 micrograms F per gram dry tissue in unwashed samples.

   (2) The average of any two consecutive months samples of forage or hay or silage grown in the area as feed shall not exceed 60 micrograms F per gram dry tissue in unwashed samples.

   (3) No monthly sample of forage or hay or silage grown in the area as feed shall exceed 80 micrograms F per gram dry tissue in unwashed samples.

d. Fruit Trees, Berries and Other Commercial Crops

Fully expanded functional leaves shall not exceed 50 micrograms F per gram dry tissue in washed samples.

e. Deciduous Trees and Shrubs

Fully expanded functional leaves shall not exceed 100 micrograms F per gram dry tissue in washed samples.

f. Conifers and Evergreen Trees or Shrubs

Fully expanded leaves or needles of the current year shall not exceed 50 micrograms F per gram dry tissue in washed samples. Leaves and needles of prior seasons shall not exceed 75 micrograms F per gram dry tissue in washed samples.

g. Grasses and Herbs

Grasses and herbs not subject to browsing, grazing or harvest for use in feeds or food shall not exceed 150 micrograms F per gram dry tissue in washed samples.

h. Ornamental Plantings

Ornamental plants, except trees, shrubs and turf where 04 Eld, ___04Eld, ___04Elf, and ___04Elg apply, shall not exceed 40 micrograms F per gram dry tissue in fully expanded leaves, in washed samples, at any period during the growing season.

i. Other Values

When vegetation sampling is deemed by the Department to be not practicable, unsatisfactory conditions may be assumed to exist by the Department if either:

(1) Static limed filter paper samples of 28 to 32 day exposure exceed five micrograms F per 100 square centimeters per day or,

(2) Gaseous fluorides exceed two micrograms F per cubic meter of air in any 24 hour sample and any 72 hour average exceeds 0.4 micrograms F per cubic meter of air.

2. Air Pollution Control Measures To Be Required. When and where concentrations of fluoride cause any of the values set forth in ___04E1 to be exceeded, the application of all necessary ways and means shall be required for reducing such concentrations. The ways and means to be required and the time schedule for their implementation shall be based on the premise that fluoride concentrations are progressively to be reduced in the shortest possible time to levels that will not cause the values in subsection ___04E1 to be exceeded.

3. Measurement of Fluoride.

a. Methods for measuring the fluoride content of any plant tissue shall be by suitable modification of the Willard and Winter method (ref. Willard, H.H. and Winter, O.B. Volumetric Method for Determination of Fluoride. Ind. Eng. Chem. Anal. Ed. 5: 7-10, 1933) such as:

> Weinstein, L. H., R. H. Mandl, D. C. McCune, J. S. Jacobson, and A. F. Hitchcock, Semi-Automated Analysis of Fluoride in Biological Materials, J. Air Poll. Control Assoc. 15: 222-5, 1965.

Results are expressed on a dry weight basis in washed and unwashed samples as noted. Micrograms F per gram dry tissue means micrograms of fluoride as the ion, per gram of dry material.

b. Methods of measuring gaseous air samples shall be by the carbonate tube method or the dual tape method by Weinstein et al ref:

> Weinstein, L. H. and R. H. Mandl. The Separation and Collection of Gaseous and Particulate Fluoride. VDI Berichte. 164, 1970.

c. The method of making and reporting static limed filter paper measurements shall be in accordance with Method III. The Determination of Monthly Fluoride Measurement - as specified in the "Standard Methods for the Determination of Air Pollution Measurements Made at Ambient Air Sampling Stations in the State of Maryland, December, 1972. Other methods may be used if they have been demonstrated to be equally or more specific, accurate, sensitive and reproducible and if first approved by the Department.

__04F Method of Measurement. Measurement of ambient air quality to compare to the standards including reporting of measurements for each pollutant listed in Table 1 shall be by the method specified in 40 CFR; 50; 36 FR 22384, Nov. 25, 1971, and the methods manual entitled "Standard Methods for the Determination of Air Pollution Measurements made at Ambient Air Sampling Stations in the State of Maryland," as developed by the Bureau of Air Quality and Noise Control of the Department. Other methods may be used if they have been demonstrated to be equally or more specific, accurate, sensitive and reproducible and if first approved by the Department. Other less specific methods of measurement may be used provided a relationship is developed between results obtained by this method and the method specified; provided this relationship is approved by the Department. Results shall be expressed as micrograms or milligrams of the pollutant per cubic meter of air, at 25 degrees Celsius and 760 millimeters of mercury pressure except as specifically noted in Table 1. Such values may be converted to parts per million by volume (ppm) by utilizing the appropriate conversion factor listed in Table 1.

__04G Number and Duration of Measurements. Pollutant measurements determined by the methods specified may be determined either by operation of cumulative type samplers or by continuous monitoring instruments. Specific definitions of measurement period values and statistical methods to be used to obtain levels of comparison to the standards are as indicated in the following appropriate subsection.

(1) Cumulative Type Pollutant Measurements.

(a) - (b)(text unchanged)

(2) Continuous Monitoring Instruments. (text unchanged)

___05 REGISTRATION OF EXISTING INSTALLATIONS

___05A Requirement for Registration. Persons responsible for installations except as provided in subsection ___05E shall apply for registration with the Department in a manner and form as required by the Department. ✓

___05B Requirement for Registration. Persons responsible for installations except as provided in subsection ___05E shall apply for registration with the Department in a manner and form as required by the Department. Registration does not imply approval by the Department of Installation.

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___05C Change of Ownership. A change of ownership shall terminate the registration of the installation. The new owner shall apply for registration with the Department within 30 days of the change of ownership.

___05D Acknowledgement. The Department shall acknowledge receipt of the request for registration within one week.

__05E Installations Not Required to be Registered.

Existing installations of a type specified as not required to obtain a Permit to Construct as indicated in Subsection .11G, shall not require registration. The Department shall provide a list specifying the types of installations that are not required to be registered under the provision of subsections __04A and __05A. The Department shall from time to time, as experience and conditions change, add to or delete from this list. Such list shall be made available with the forms furnished by the Department for "Prior Registration of Proposed Installations." The provision for not registering as herein provided shall not in any manner be construed as authorizing or permitting the creation of or maintenance of air pollution.

__06 TESTING AND MONITORING

__06A Requirements for Testing. The Department may require any person to conduct or have conducted testing to determine compliance with these regulations. The Department may at its option witness or conduct such tests. Such testing will be done at a reasonable time, and all information gathered during a testing operation will be provided to both parties.

1. Compliance with these regulations shall be determined by the test methods designated and described in Section .12, Emission Test Methods and shall be applicable to both new and existing stationary emission sources. These test methods may be modified or adjusted by the Department to meet the requirements at certain types of sources, specific sampling conditions and the need to incorporate advances and other new information relating to testing technology.

2. When the Department conducts or has such tests conducted, the person shall provide such sampling facilities, exclusive of instruments and sensing devices, as may be necessary to determine the quantity of emissions.

3. Any registrable installation conducted after January 4, 1971 shall be provided with openings in the exhaust gas ductwork or in the stack or chimney as required by the test methods specified in 06.A(1) to enable the collection of samples of the effluent to the atmosphere from such installation. Upon request of the Department, the owner or operator of such an installation shall provide appropriate scaffolding which meets OSHA standards as set forth in 29 CFR Chapter XVII Part 1910.

___06B Requirements for Monitoring. The Department or Control Officer may require a person responsible for any installation to install, use and maintain monitoring equipment or employ other methods as specified by the Department or the Control Officer to determine the quantity and/or quality of emissions discharged into the atmosphere and to maintain records and make reports on said emissions to the Department or the Control Officer in a manner and on a schedule approved by the Department or the Control Officer.

1. The Department or the Control Officer shall, at reasonable times, have access to and be permitted to copy any records, inspect any monitoring equipment or methods required under this subsection.

2. Except when otherwise specified by the Department or the Control Officer, records required under this subsection shall be retained by the person responsible for the installation and shall be available for inspection by the Department and the Control Officer for a period of not less than 90 days.

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3. All records and reports submitted to the Department or the Control Officer required under this subsection shall be available for public inspection.

____07 MALFUNCTIONS AND OTHER TEMPORARY INCREASES OF EMISSIONS

A. Definitions.

(1) "Excess emissions" means an emission rate which exceeds any applicable emission standard set forth in these regulations unless the emission rate is in compliance with an approved plan for compliance, departmental order, consent order, or condition of a permit.

(2) "Malfunction" means sudden and unavoidable failure of an installation to operate in a normal and usual manner. Failures that are caused entirely or in part by inadequate design, poor maintenance, careless operation, preventable upset conditions, or preventable equipment breakdown may not be considered malfunctions.

B. Unless otherwise required by law, the Department will consider any period of excess emissions to be a violation of law, regardless of the cause. Information submitted pursuant to §§C and D of this regulation will be considered, however, in determining whether the excess emissions are the result of a malfunction and whether to commence an administrative or judicial proceeding authorized by State and federal law.

C. Report of Excess Emissions.

(1) In the case of any occurrence of excess emissions expected to last or actually lasting for 1 hour or more from any installation required by Regulation .11B to obtain a permit to operate, the owner or operator shall report the onset and shall report the termination of the occurrence to the Department by telephone.

(2) Telephone reports of excess emissions shall include the following information:

(a) The identity of the installation and the person reporting;

(b) The nature or characteristics of the emissions (for example, hydrocarbons, fluorides);

(c) The time of occurrence of the onset of the excess emissions and the actual or expected duration of the occurrence; and

(d) The actual or probable cause of the excess emissions.

D. Written Report of Excess Emissions.

(1) When requested by the Department, the owner or operator of any installation from which excess emissions have occurred shall submit a written report to the Department within 10 days of receiving the request.

(2) The report shall set forth the following information:

(a) The identity of the installation;

(b) The nature or characteristics of the emissions (for example, hydrocarbon, fluorides);

(c) The time of occurrence of the onset of the excess emissions and the duration of the occurrence;

(d) The actual or estimated quantity of excess emissions during the occurrence, and operating data and calculations used in determining the quantity;

(e) The actual or probable cause of the occurrence and whether the owner or operator contends that the cause is a malfunction.

(f) The method of correcting the cause of the excess emissions and minimizing the duration and magnitude of the occurrence, including, if applicable, the use of overtime or contractual assistance to make repairs as expeditiously as possible;

(g) A listing of all occurrences of excess emissions from the installation, the duration of each occurrence, and the cause of each occurrence for the past 1-year period or since the effective date of this regulation, whichever is less;

(h) A copy of the maintenance plan for the installation and documentation that the plan is appropriate for the installation;

(i) Documentation that the maintenance plan was being carried out before the occurrence of excess emissions;

(j) The steps taken or planned to prevent the reoccurrence of the excess emissions; and

(k) Any other information requested by the Department which is relevant to the occurrence of excess emissions or a claim by the owner or operator that the excess emissions were the result of a malfunction.

E. Notwithstanding any provisions to §§A through D, above, a decision by the Department not to commence enforcement proceedings for an occurrence of excess emissions is not intended to preclude the Department from considering all past periods of excess emissions in determining whether to revoke or suspend a current operating permit or not to issue an operating permit for a future period of time.

F. The Department may exempt the owner or operator of any installation from the reporting requirements of §C provided it determines that other information submitted to the Department meets the requirements of this paragraph or the information is of insignificant use to the Department.

___09 MOTOR VEHICLE EMISSIONS

___09A Removal of Control Devices. No person shall remove, alter or otherwise render inoperative, exhaust emission control, crank case ventilation or any other air pollution control device which has been installed as a requirement of Federal law or regulation.

___09B Operation of Motor Vehicles. No person shall operate a motor vehicle originally equipped with air pollution control devices as required by Federal law or regulation unless such devices are in place and in operating condition.

___09C Exceptions. The requirements of Subsections ___09A and ___09B shall not apply to an alteration or modification to use a fuel other than gasoline where it has been shown that the emissions from such modified or altered vehicle are at levels which comply with existing state or Federal standards for emissions from motor vehicles.

___10 RECORDS AND INFORMATION

Note: Section 10(1) was disapproved on September 26, 1974 since it could, in some circumstances, prohibit the disclosure of emission data to the public.

___11 PERMITS

___11A Permit to Construct. No person shall cause, suffer, allow or permit the construction, modification or alteration of any installation except as provided for in subsection ___11G without first having obtained a "Permit to Construct" from the Department. A "Permit to Construct" shall be void if the construction, modification or alteration is not begun within one year from the date of issuance or if the work involved in construction, modification or alteration is suspended for one year or more from the date of issuance.

___11B Permit to Operate. A person shall not cause, or permit any installation specified in subsection ___11H to be used or operated without first having obtained a "Permit to Operate" from the Department. Such permits shall be valid for a period of one year and may be renewed only after application in writing to the Department, upon request of the Department, not less than 60 days prior to their expiration date.

___11C Conditional Permit. Upon receipt of an application for the issuance of a "Permit to Construct" or a "Permit to Operate" or any renewal thereof, the Department may issue a temporary "Conditional Permit" valid for a period not to exceed 90 days. The holder of a "Conditional Permit" shall comply with the conditions contained in same as well as all other provisions of these regulations and Federal air pollution control regulations.

___11D Permits Do Not Cancel Need for Other Permits. Permits to construct and permits to operate issued under this section are based on the control of air pollution only, and do not in any way obviate the applicant's obligation to obtain necessary permits from other government agencies.

___11E Saving Clause. The possession of a "Permit to Operate" does not relieve any person from the obligation to comply with all other provisions of these regulations and Federal air pollution control regulations.

___11F Exemptions. The provisions of subsections ___11A and ___11B shall not apply to structural changes, repairs or maintenance of any article, machine, equipment or contrivance if such changes, or repairs of maintenance cannot change the quality, nature or quantity of emissions.

___11G Installations Not Required to Obtain Permits to Construct. The following types of installations are not required to obtain a "Permit to Construct" from the Department.

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1. Maintenance, component, replacement, structural changes or minor repair which does not change capacity of such process equipment, fuel-burning equipment, control equipment, or incinerators and which does not involve any change in the quality, nature, or quantity of emissions therefrom.

2. Motor vehicles, steamships, tugs, and railroad locomotives.

3. Fuel burning equipment using gaseous fuels or No. 1 or No.2 fuel oil with a heat input less than 1,000,000 BTU (1.06 gigajoules) per hour.

4. Fuel burning equipment using solid fuel with a heat input of less than 350,000 (0.37 gigajoules) BTU per hour.

5. Stationary internal combustion engines with less than 1000 brake horsepower (1014 metric horsepower).

6. Bench scale laboratory equipment used exclusively for chemical or physical analysis or experimentation.

7. Portable brazing, soldering, or welding equipment.

8. The following equipment:

   (a) Comfort air conditioning or comfort ventilating systems which are not designed to remove emissions generated by or released from specific units of equipment.

   (b) Water cooling towers and water cooling ponds unless used for evaporative cooling of process water, or for evaporative cooling of water from barometric jets or barometric condensors or used in conjunction with an installation requiring a permit to operate.

   (c) Equipment used exclusively for steam cleaning.

   (d) Grain, metal, plastic or mineral extrusion presses.

   (e) Porcelain enameling furnaces or porcelain enameling drying ovens.

   (f) Unheated solvent dispensing containers or unheated solvent rinsing containers of 60 gallons (227 liters) capacity or less.

   (g) Equipment used for hydraulic or hydrostatic testing.

9. The following equipment or any exhaust system or collector serving exclusively such equipment:

   (a) Blast cleaning equipment using a suspension of abrasive in water.

(b) Bakery ovens where the products are edible and intended for human consumption.

(c) Kilns used for firing ceramic ware, heated exclusively by natural gas, liquified petroleum gas, electricity, or any combination of these;

(d) Confection cookers where the products are edible and intended for human consumption.

(e) Drop hammers or hydraulic presses for forging or metal working.

(f) Die casting machines.

(g) Photographic process equipment used to reproduce an image upon material through the use of radiant energy.

(h) Equipment for drilling, carving, cutting, routing, turning, sawing, planing, spindle sanding or disc sanding of wood or wood products.

(i) Equipment for surface preparation of metals by use of aqueous solutions, except for acid solutions.

(j) Equipment for washing or drying products fabricated from metal or glass, provided that no volatile organic materials are used in the process and that no oil or solid fuel is burned.

(k) Laundry dryers, extractors or tumblers for fabrics cleaned with only water solutions of bleach or detergents.

(l) Containers, reservoirs, or tanks used exclusively for electrolytic plating with, or electrolytic polishing of, or electrolytic stripping of the following metals: Brass, Bronze, Cadmium, Copper, Iron, Lead, Nickel, Tin, Zinc, Precious Metals.

10. Natural draft hoods or natural draft ventilators.

11. Containers, reservoirs or tanks used exclusively for:

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(a) Dipping operations for coating objects with oils, waxes, or greases, where no organic solvents are used. ✓

(b) Dipping operations for applying coatings of natural or synthetic resins which contain no organic solvents. ✓

(c) Storage of butane, propane or liquified petroleum or natural gas. ✓

(d) Storage of lubricating oils.

(e) Unheated storage of organic materials with an initial boiling point of 300° F (149° C) or greater.

(f) Storage of Nos. 1,2,4,5 and 6 fuel oil and aviation jet engine fuel.

(g) Storage of motor vehicle gasoline and having an individual tank capacity as follows:

  (1) Areas I,II, V, VI - less than 25,00 gallons (94.6 cubic meters)

  (2) Areas III, IV - less than 5,000 gallons (18.9 cubic meters)

(h) The storage of organic liquids normally used as solvents, diluents, or thinners, inks, colorants, paints, lacquers, enamels, varnishes, liquid resins or other surface coatings and having a capacity of 2000 gallons (7.6 cubic meters) or less.

(2,000)

12. Gaseous fuel-fired or electrically-heated furnaces for heat treating glass or metals, the use of which does not involve molten materials.

13. Crucible furnaces, pot furnaces, or induction furnaces, with a capacity of 1,000 pounds (454 kilograms) or less each, in which no sweating or distilling is conducted, nor any fluxing conducted utilizing chloride, fluoride or ammonium compounds, and from which only the following metals are poured or in which only the following metals are held in a molten state:

  (a) Aluminum or any alloy containing over 50 percent aluminum, provided that no gaseous chlorine compounds, chlorine, aluminum chloride or aluminum fluoride are used.

  (b) Magnesium or any alloy containing over 50 percent magnesium.

  (c) Lead or any alloy containing over 50 percent lead.

  (d) Tin or any alloy containing over 50 percent tin.

  (e) Zinc or any alloy containing over 50 percent zinc.

  (f) Copper.

  (g) Precious Metals.

14. Vacuum cleaning systems used exclusively for industrial, commercial or residential housekeeping purposes.

15. Charbroilers with a total grill of less than five square feet (0.46 square meters).

(f) Storage of Nos. 1, 2, 4, 5 and 6 fuel oil and aviation jet engine fuel.

(g) Storage of motor vehicle gasoline and having an individual tank capacity as follows:

(1) Areas I, II, V, VI - less than 25,000 gallons (94.6 cubic meters)

(2) Areas III, IV - less than 5,000 gallons (18.9 cubic meters)

(h) The storage of organic liquids normally used as solvents, diluents, or thinners, inks, colorants, paints, lacquers, enamels, varnishes, liquid resins or other surface coatings and having a capacity of 2000 gallons (7.6 cubic meters) or less.

12. Gaseous fuel-fired or electrically-heated furnaces for heat treating glass or metals, the use of which does not involve molten materials.

13. Crucible furnaces, pot furnaces or induction furnaces, with a capacity of 1,000 (454 kilograms) pounds or less each, in which no sweating or distilling is conducted, nor any fluxing conducted utilizing chloride, fluoride or ammonium compounds, and from which only the following metals are poured or in which only the following metals are held in a molten state:

(a) Aluminum or any alloy containing over 50 percent aluminum, provided that no gaseous chlorine compounds, chlorine, aluminum chloride or aluminum fluoride are used.

(b) Magnesium or any alloy containing over 50 percent magnesium.

(c) Lead or any alloy containing over 50 percent lead.

(d) Tin or any alloy containing over 50 percent lead.

(e) Zinc or any alloy containing over 50 percent zinc.

(f) Copper.

(g) Precious Metals.

14. Vacuum cleaning systems used exclusively for industrial, commercial or residential housekeeping purposes.

15. Charbroilers with a total grill area of less than five square feet (0.46 square meters).

__11H Installations Required to Obtain a Permit to Operate. As prescribed in __11B, the following installations are required to obtain a "Permit to Operate" from the Department, unless specifically exempted by the Department on the basis of capacity or nature of equipment or materials or amount of emission or other indication of limited potential for causing air pollution.

1. Incinerators of 2000 lbs/hr(907 kilograms/hour) or more rated capacity.

2. Fuel burning installations using liquid or solid fuels with a capacity of 50 x 10^6 BTU/hr (52.8 gigajoules/hour) or more maximum rated heat input, when located on a premise where the total rated heat input for all fuel burning installations of 100 x 10^6 BTU/hr. or more.

3. Metal reclamation furnaces

4. Glass melting furnaces of 1 ton/hour (907 kilograms/hour) or more or 1 ton (907 kilograms) or more capacity.

5. Sintering machines - metallic ores and mineral products, of 1 ton/hour or more capacity.

6. Lime kilns - all types, all sizes.

7. Cement kilns - all types, all sizes.

8. Other kilns of 1 ton/hour (907 kilograms/hour) or more throughput.

9. Coke ovens - all types of 1 ton/day (907 kilograms/day) or more capacity.

10. Rendering cookers - all types of 500 lb. or more capacity.

11. Wood digesters.

12. Sulfuric acid plants

13. Chemical reactors of 1 ton (907 kilograms) or more capacity or 1 ton/hour (907 kilograms/hour) or more throughput.

14. Varnish or resin cookers - all types of 500 lbs. (227 kilograms) or more capacity or 500#/hr. (227 kilograms/hour) or more throughput.

15. Distilling tanks or towers of 1000 gal./hour (3.8 cubic meters/hour) or more capacity.

16. Through-circulation dryers - mineral products or metallic ores, of 5 ton/hour (4540 kilograms/hour) or more capacity.

17. Spray dryers of 1 ton (907 kilograms) or more capacity or 1 ton (907 kilograms) or more per hour throughput.

Attached insert 23, 24, 25

18. Crushers, hammermills, shredders, grinders of 5 ton/hour (4540 kilograms/hour) or more capacity.

19. Ball mills and roller mills - dry type of 2 ton/hour (1810 kilograms/hour) or more capacity.

20. Scarfing machines - metal products only, all sizes.

21. Motor gasoline storage tanks with a capacity of 40,000 gal. (151 cubic meters) or more that are required to have vapor control devices.

22. Solvent storage tanks required to have vapor control devices.

23. Gasoline tank truck loading racks outloading 20,000 gal/day (75.7 cubic meters/day) or more.

24. Metallurgical furnaces involving molten metal holding 1 ton (907 kilograms) or more of metal or having a throughput greater than 500 pounds per hour (227 kilograms per hour).

25. By-product recovery furnaces - 1 ton (907 kilograms) or more capacity or 1 ton/hour (907 kilograms/hour) or more throughput.

26 25. Chemical reclamation process equipment.

27 27. Inorganic pigment chemical process equipment greater than 1 ton (907 kilograms) per hour rated capacity.

28 28. Automatic organic material metal coating and decorating lines with integral drying ovens.

29 29. Web printing press lines with integral drying ovens.

30 30. Grain elevators and terminals of 10,000 bushels/hour or more grain leg capacity.

31 31. Frit smelters.

32 32. Portland cement clinker coolers.

33 33. Benzene storage tanks greater than 500 gallons (1.9 cubic meters) capacity.

34 34. Benzene truck loading racks.

35 35. Galvanizing operations using fluxes and prefluxes.

36 36. Coal tar or petroleum pitch impregnating operations.

37 37. Gypsum calcining kettles.

38 38. Pulverixed material separators 1 ton (907 kilograms)/hour or greater capacity.

39 39. Any other installation or source which the Department determines has the potential to have significant impact on air quality.

11I Applications for Permits.

clarify #11I

1. Permit to Construct. Applications for a permit to construct shall be made to the Department on forms provided by the Department. The Department shall require such information and details regarding the installation as it considers necessary to determine whether the installation is designed to operate in compliance with these regulations and Federal air pollution control regulations and that the installation incorporates advances in the technology of air pollution control developed for the kind and amount of emissions by the applicant's installation. Information relating to secret processes or methods of manufacture or production disclosed to or required, ascertained, or discovered by an employee or agent of the Department shall be kept confidential. Information to be given in the application shall include, but not be limited to the following:

   a. Fully completed application forms for all applicable equipment.
   b. For Control Systems:
      (1) Copies of vendor proposals or quotations
      (2) Copies of vendor guarantees
      (3) Copies of equipment drawings and literature
      (4) Copies of purchase specifications
   c. For process or manufacturing equipment
      (1) Equipment layout drawings
      (2) Process flow sheets
      (3) Material balance data
      (4) Equipment drawings and/or literature
      (5) Copies of purchase specifications
   d. For a new premise, an area map shall be secured and presented and, if necessary additional information shall be provided relative to type of area, distance to residencey, etc.

   e. For a source emitting volatile organic compounds at a rate of more than 50 tons (45,359 kilograms) per year, or 1000 pounds (453.6 kilograms) per day, or 100 pounds (45.4 kilograms) per hour to be constructed in areas for which the State implementation plan submission has demonstrated under 40 U.S.C. 7502(a)(2) that the photochemical oxidant ambient air quality standard cannot be met by 1982, an analysis of alternative sites, sizes, production processes, and environmental control techniques for the proposed source which demonstrates that benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction or modification.

2. Permit to Operate. For the kinds of installations specified in subsection __11H, applications for a permit to operate and renewals of operating permits shall be made to the Department, on forms provided by the Department. The Department shall require such information and details regarding the installation as it considers necessary to determine whether the installation is designed to operate in compliance with these regulations and Federal air pollution control regulations and that the installation incorporates advances in the technology of air pollution control developed for the kind and amount of emissions by the applicant's installation.

___11J Action on an Application for a Permit.

(1) For the purposes of section J, "100-ton source" means a source which, after complying with all other applicable provisions of these regulations, is predicted to discharge to the atmosphere 100 tons/year (91,000kg) or more of any pollutant except for those installations subject to the provisions of Article 78, Section 54 (A) and (B), Annotated Code of Maryland.

(2) Exemptions. For the purposes of Section J, 100-ton sources and NSPS sources do not include those installations subject to the provisions of Article 78, section 54 (A) and (B), Annotated Code of Maryland.

(3) Permit to Construct New Source Performance Standard Sources, and 100-ton (91,000 kg) Sources.

a. Within 10 working days, the Department will acknowledge the receipt of an application for a permit to construct.

b. Within 60 days after the receipt of a completed application, the Department will:

(i) Make a determination to proceed with the application, deny the issuance of the permit, or notify the applicant that additional information is required;

(ii) Upon a determination to proceed with the application, make available for public inspection in at least one location in the region in which the proposed installation is to be constructed a copy of all materials submitted by the applicant and a copy or summary of other materials considered by the Department.

c. Advertisement after Determination to Proceed.

(i) Within 10 days after notification by the Department of a determination to proceed with the application, the applicant shall notify the public, by prominent advertisement in at least one newspaper of general circulation in the region affected, of the opportunity to comment on the application.

(ii) The advertisement shall be made at the applicant's expense and in a format approved by the Department and shall include a brief summary of the nature of the proposed facility; the location or a brief description of the materials required by Section J (3) (b) (ii), above, to be available for public inspection; the location where copies of the comments received by the Department will also be available for public inspection; a statement that the public has 30 days to comment after the advertisement publication date; and the address to which the comments may be sent.

(d) The applicant shall file a copy of the public notice and a certification of publication with the Department.

(e) The applicant shall have 5 working days to respond to any comments received by the Department. Within 10 working days after the end of the public comment period, the Department will make a final decision on the application.

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(4) Permit to Construct Applications for Installations Not Listed Above and All Permits to Operate Applications. The Department will acknowledge the receipt of an application for a permit to construct or operate within 10 working days. Within 60 days following the receipt of the application, the Department either will issue or deny the permit, or notify the applicant that additional information is required.

(5) Request for Additional Information. If additional information is required, the date of receipt of the application for the purpose of Section J is the date on which all required information is received by the Department. Upon receipt of the information, the Department will proceed as provided in Section J (3) or Section J (4), above.

(6) Request for Action. If the applicant makes a written request for final action on any application, the Department will issue or deny the permit within 10 working days. The issuance or denial will be based on the information received by the Department as of the date of the request.

___11K Denial of Application. Whenever it appears to the Department that the operation or construction of an installation for which a permit is sought will result in emissions in violation of any of these regulations or contravention of applicable ambient air quality standards or, by the applicant's Installation, an order shall be entered denying the permit and setting forth reasons thereof. The Department may not accept a further application unless the applicant has remedied the conditions specified by the Department as its reasons for denial of the permit.

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The Department shall not accept a further application unless the applicant has complied with the objections specified by the Department as its reason for denial of the permit.

___11L Notification of Denial; Hearings. An order denying a permit or the granting of a conditional permit shall be served as summonses are served or by certified mail upon the applicant and shall be final unless the applicant requests a hearing before the Department within 10 days after service. Where such a hearing is requested by the applicant, it shall be held pursuant to Article 43, Section 698.

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___11M Transfers. A permit shall not be transferable either from one premise to another, from one installation to another, or from one person to another.

___11N Permits to be Available. Any person in possession of a "Permit to Operate" shall maintain said permit on the premises for which the permit has been issued, and shall make said permit immediately available to the Department upon request.

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___11O Revocation of a Permit. The Department shall issue an order suspending or revoking any permit for violation of any of these regulations or any Federal air pollution control regulations. An order suspending or revoking a permit shall be served as summonses are served or by certified mail upon the permit holder and shall be final unless the holder requests a hearing before the Department within 10 days after service. Where such a hearing is requested by the holder, it shall be held pursuant to Article 43, Section 698.

___12 EMISSION TEST METHODS.

Test methods used shall be those specified in Test Methods for Stationary Sources, Maryland State Bureau of Air Quality and Noise Control, March 1976, as adopted as official test methods by notice in the Maryland Register, Vol.   .

___12A Regulation Establishing Unsuitable Sites For The Construction of Power Plants. The Secretary of National Resources, acting pursuant to Section 768 of Article 66C and Section 3B of Article 41 of the Annotated Code of Maryland, for the purposes of protecting the quality of the State's environment while also satisfying the electric energy needs of Maryland's people and industry, hereby adopts this regulation establishing unsuitability of sites for the construction of power plants.

Section I: Classification as Unsuitable

Any proposed location for the construction of a power plant shall be classified unsuitable if analysis of the information developed pursuant to Sections 767 and 768; Article 66C of the Annotated Code of Maryland determines that the power plant cannot operate without causing a violation of any State or State adopted Federal air or water quality standard, water appropriation or waterway construction regulation, State wetlands regulation, or other State statutes pertaining to environmental quality. This regulation in no way precludes a classification of unsuitable based on other environmental considerations.

Section II: This regulation shall take effect on July 1, 1972

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TABLE 1

EMISSION REDUCTION OBJECTIVES FOR THE ALERT STAGE *

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Source of Emissions	Alert Stage Actions
1. Coal or oil-fired electric power generating facilities.	a. Substantial reduction of emissions by utilizing fuels having low ash and sulfur content.(Use gaseous fuels where possible) cap b. Substantial reduction of emissions by diverting loads to electric power generating facilities outside of Alert area.
2. Coal or oil-fired steam producing facilities having a capacity to burn in excess of four tons of coal per hour or 600 gallons (2.34 cubic meters) of (3630 kilograms) fuel oil per hour.	a. Substantial reduction of emissions by utilization of fuels having low ash and sulfur content. (Use gaseous fuels where possible) b. Substantial reduction of steam load demands consistent with continuing plant operations.
3. Manufacturing industries of the following classification which employ more than 20 employees at any one location: Standard Industrial Classification Major Groups 26 Paper and Allied Products Industry 28 Chemical and Allied Products Industry 29 Petroleum Refining and Related Industry 32 Glass, Clay and Concrete Products Industry 33 Primary Metal	a. Substantial reduction of emissions from manufacturing operations by curtailing, postponing or deferring production and allied operations. b. Substantial reduction of emissions by deferring by-product or trade waste disposal which emit air pollution. c. Substantial reduction of heat load demands.
4. On-Site Incineration.	a. Stop all incineration except that resulting from public collection of refuse.

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5. Any source of air pollutants, not covered above, upon written request of the Department may be required to submit standby plans describing emission cutbacks to be taken in the event an Alert is called.	a. All possible substantial reduction possible consistent with requirements for safety of people and preservation of property.

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*Actions specified under "source of emissions" categories 1, 2, 3 and 4 are primarily for control of particulate matter and/or oxides of sulfur emissions, and will be instituted only when the alert stage is called for these pollutants, unless otherwise specified in a specific emissions reduction plan. Alert stage called for other pollutants may not require instituting these actions if no reduction in pollutant level will be attained.

TABLE II

EMISSION REDUCTION OBJECTIVES FOR THE WARNING STAGE*

Source of Emissions	Warning Stage Actions
1. Coal or oil-fired electric power generating facilities.	a. Maximum reduction of emissions to provide essential power needs by utilization of fuels having lowest ash and sulfur content. (Use gaseous fuels where possible.) b. Maximum reduction of emissions by diverting electric power generation to facilities outside of Warning Area.
2. Coal or oil-fired steam producing facilities having a capacity to burn in excess of four tons (3630 kilograms) of coal per hour or 600 (2.34 cubic meters) gallons of fuel oil per hour.	a. Maximum reduction of emissions by utilization of fuels having the lowest available ash and sulfur content. (Use gaseous fuels where possible.) b. Maximum reduction of heat and steam demands to absolute necessities consistent with preventing equipment damage. c. Make ready for emergency action if Emergency stage declared.
3. Manufacturing industries of the following classification which employ more than 20 employees at any one location: Standard Industrial Classification, Major Groups 26 Paper and Allied Products 28 Chemical and Allied Prods. & Ind. 29 Petroleum Refining and Related Industries 32 Glass, Clay & Concrete Prods. 33 Primary Metal Industries	a. Maximum reduction of emissions from manufacturing operations by ceasing, curtailing, postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment. b. Maximum reduction of emissions by deferring by-product or trade waste disposal processes which emit air pollution. c. Maximum reduction of heat load demands.

4.	Refuse Incinerators.	a.	Complete elimination of the use of all incinerators.
5.	Any source of air pollutants, not covered above, upon written request of the Department may be required to submit standby plans describing emission cut-backs to be taken in the event a Warning is declared.	a.	Maximum reduction possible consistent with requirements for safety of people and preservation of property.

*Actions specified under "source of emissions" categories 1, 2, 3, and 4 are primarily for control of particulate matter and/or oxides of sulfur emissions, and will be instituted only when the warning stage is called for these pollutants, unless otherwise specified in a specific emissions reduction plan. Warning stage called for other pollutants may not require instituting all these actions if no reduction in pollutant level will be attained.

TABLE III

EMISSION REDUCTION OBJECTIVES FOR THE EMERGENCY STAGE*

Source of Emissions	Emergency Stage Actions
1. Coal or oil-fired electric power generating facilities.	a. Maximum reduction of emissions to provide essential power needs by utilization of fuels having lowest ash and sulfur content. (Use gaseous fuels where possible.) b. Maximum reduction of emissions by diverting electric power generation to facilities outside of Emergency area.
2. Coal or oil-fired steam producing facilities having a capacity to burn in excess of four tons (3630 kilograms) of coal per hour or 600 gallons (2.34 cubic meters) of fuel oil per hour.	a. Maximum reduction of heat and steam demands to absolute necessities consistent with preventing equipment damage. b. Take actions called for in the Emergency portion of the Standby Emission Reduction Plan.
3. Manufacturing industries of the following classification which employ more than 20 employees at any one location: Standard Industrial Classification, Major Groups 26 Paper and Allied Products 28 Chemical and Allied Products Industries 29 Petroleum Refining and Related Industries 32 Glass and Clay and Concrete Products 33 Primary Metal Industries	a. Elimination of emissions from manufacturing operations by ceasing, curtailing, postponing, or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment. b. Elimination of emissions from by-product or trade waste disposal processes which emit air pollution. c. Maximum reduction of heat load demands.

4. Refuse Incinerators.	a. Complete elimination of the use of all incinerators.
5. All standby emission reduction plans, required by the Department and not already in effect or described above, shall be implemented.	

*Actions specified under "source of emissions" categories 1, 2, 3, and 4 are primarily for control of particulate matter and/or oxides of sulfur emissions and will be instituted only when the emergency stage is called for these pollutants, unless otherwise specified in a specific emissions reduction plan. Emergency stage called for other pollutants may not require instituting a-1 these actions if no reduction in pollutant level will be attained.

Maryland State Department of Health and Mental Hygiene
301 West Preston Street
Baltimore, Maryland 21201

(As Amended through December 17, 1974

10.03.36 Regulations Governing the Control of Air Pollution in Area I†

Pursuant to the authority conferred upon the Secretary of Health and Mental Hygiene by Article 43, Annotated Code of Maryland, 1957 Edition, and Supplement, the following regulations governing the control of air pollution in Area I are hereby established as requirements of the Department of Health and Mental Hygiene.

___01 CONTROL AND PROHIBITION OF OPEN FIRES

___01A General. No person shall cause, suffer, allow or permit an open fire except as provided in subsection ___01B, ___01C and ___01D.

___01B Control Officer May Authorize Certain Open Fires.

1. Subject to review by the Department, the Control Officer may, upon receipt of an application made on forms provided by the Department or local fire control agency, issue or approve a permit in writing allowing an open fire provided all of the following conditions are met:
   - a. The Control Officer is satisfied that there is no practical alternate method to dispose of the material to be burned or to conduct the desired activities.
   - b. No hazardous condition or air pollution or nuisance will be created.
   - c. Fire control laws or regulations of other governmental agencies will not be violated.
   - d. No materials which produce dense smoke when burned, including but not limited to tires and roofing material, will be burned.
   - e. The material to be burned shall have originated on the premises on which it is to be burned.
2. The Control Officer may impose other conditions to minimize creation of smoke, to prevent nuisances and air pollution, and to protect the health, safety, comfort and property of any persons.

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† Editor's note: Western Maryland comprised of Garrett, Allegany and Washington Counties

___01C Public Officer May Authorize Certain Fires.

Public officers, in the performance of their official duties, may set an open fire or give permission for an open fire, with concurrence of the Control Officer, provided all reasonable means are employed to minimize smoke if the fire is necessary for one or more of the following reasons or purposes.

1. For the prevention of a fire hazard that cannot be abated by other means.

2. For the instruction of public fire fighters or industrial employees under supervision of the appropriate fire control official.

3. For the protection of public health or safety when other means for disposing of hazardous materials are not available.

___01D Allowed Open Fires.

Open fires otherwise in conformance with other governmental fire control ordinances, provided no nuisance or air pollution is created, are allowed without permission as follows:

1. In those areas where no provision is made for public collection of leaves, the open burning of leaves originating on the premises by householders is permitted. On and after July 1, 1973, no leaves shall be burned at locations closer than 200 feet (61 meters) from any neighboring habitable dwelling or place where people work or congregate.

2. In those areas where no provision is made for public collection of refuse, burning of ordinary household trash (I.I.A. Waste types 0 and 1 only) originating on the premises, excluding commercial establishments, by householders is permitted provided that:

   a. Materials are not to be burned which create dense smoke emissions of greater than 40% opacity or darker in shade or appearance than designated as No. 2 on the Ringelmann Smoke Chart.

   b. On and after July 1, 1973, no refuse shall be burned at locations closer than 200 feet (61 meters) from any neighboring habitable dwelling or place where people work or congregate.

3. Cooking of Food.

4. Fires set in the course of agricultural operations in growing crops or raising fowl or animals or in accepted forestry practice. In no case shall this provision be construed as allowing the burning of ordinary household or barnyard trash in areas where provision is made for public collection of refuse.

5. Recreational purposes, such as campfires.

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6. Oil or gas fired salamanders or similar devices designated specifically for space heating or warming of outdoor workers, etc., provided no visible emissions are created.

7. Warming fires for outdoor workers, providing smoke emissions are not darker in shade or appearance than those designated as No. 2 on the Ringelmann Smoke Chart or greater than 40% opacity, and the fires are located no closer than 200 feet (61 meters) from any neighboring habitable building.

(50.1.2)___02 CONTROL AND PROHIBITION OF VISIBLE EMISSIONS

___02A For the Purpose of these regulations:

1. "Existing installation" shall mean those erected prior to January 17, 1972.

2. "Modified installation or equipment" shall mean those altered, changed or added to on or after January 17, 1972.

3. "New plant" shall mean any installation for which the major proportion of fuel burning, incineration, processing or manufacturing equipment in the installation was erected on or after January 17, 1972. This definition is not intended to apply to a "modified installation" where new control equipment is added to an existing installation. In questionable cases, the determination of new plant shall be made by the Department.

___02B *Visible Emissions for New Plants. No person shall cause, suffer, allow or permit the discharge of emissions from any new plant or building other than water in an uncombined form, which are visible to human observers.

___02C Visible Emissions from Existing and Modified Installations.

1. Existing and Modified Bituminous Concrete Manufacturing Plants. No person shall cause, suffer, allow or permit the discharge of emissions from any existing or modified bituminous concrete manufacturing installation other than water in an uncombined form, which are visible to human observers.

2. Other Existing and Modified Installations. No person shall cause, suffer, allow or permit emissions from any other existing installation, modified installation or building that are darker in shade or appearance than that designated as No. 1 on the Ringelmann Smoke Chart or greater than 20% opacity.

* Consent order for Becell Jr. High School of Frostburg. See NonRegulatory Section Federal Register Publication 3/18/80.

___02D Exceptions.

1. Subsections ___02B and ___02C shall not apply to emissions during the building of a new fire, cleaning of fires, soot blowing, start-up and process modification or adjustment, or occasional cleaning of control equipment in shade or appearance than that designated as No. 2 on the Ringelmann Smoke Chart or greater than 40% opacity for a period or periods aggregating no more than 4 minutes in any sixty minutes.

2. Any person who believes that meeting the requirements of subsection ___02B is not practical in a particular instance may request in exception to the requirements of subsection ___02B. Such a request shall be submitted to the Department in writing and include evidence to show why compliance is not practical. Upon the receipt of a request for an exception, the Department shall schedule a public hearing to be held within 60 days. The applicant for the exception shall, at least 30 days prior to the hearing date, prominently advertise the hearing by notice in a newspaper of general circulation in the Subdivision in which the facility or source for which the exception is sought is located. The notice shall include the name of the facility or source and such additional information as the Department may require. Based upon the evidence presented at the hearing the Secretary may grant an exception for a period not to exceed five years to subsection .02B under such other terms and conditions as are appropriate to reduce the impact of the exception.

3. Subsection ___02B shall not apply to emissions of the following:

   a. From the burning of wood in fireplaces on premises used for residential or recreational purposes;

   b. From open fires (except salamanders) permitted under provisions of subsections ___01B, ___01C and ___01D of this regulation.

4. The Control Officer may grant exceptions to ___02C above under the following conditions:

   a. When the application of ___02C to a residential building housing two or less families creates undue economic hardship on individuals residing therein or,

   b. When the installation's primary way of transferring heat is by the radiant method rather than a piped fluid system such as forced hot air, hydronic, or steam. Installations in this category would include stoves, room heaters, floor or wall mounted circulating heaters, fireplaces or similar devices.

___02E Visible Emissions from Internal Combustion Engine Powered Equipment

1. Definitions

   For the purpose of this regulation:

   a. "Internal Combustion Engine", hereafter referred to as "engine", shall mean all engines except those used for propulsion of ships or vehicles licensed to operate upon the public highways within the State, or engines employed solely for agricultural and recreational purposes unless it is an integral part of a stationary installation.

   b. "Idle" shall mean the condition during which the engine is not performing useful net work to enable the piece of equipment to accomplish its designed purpose(s).

2. Emissions During Idle Mode

   No person shall cause, suffer, allow or permit the discharge of emissions from any engine operating at idle of greater than 10% opacity or darker in shade or appearance than that designated as No.½ on the Ringelmann Smoke Chart except for the allowable discharge of water in an uncombined form.

3. Emissions During Operating Mode

   No person shall cause, suffer, allow or permit emissions from any engine, operating at other than idle conditions greater than 40% opacity or darker in shade or appearance than that designated as No. 2 on the Ringelmann Smoke Chart.

4. Exceptions

   a. Paragraph (2) above shall not apply for a period of two consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

   b. Paragraph (2) above shall not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:

      (1) Engines that are idled continuously when not in service: 30 minutes.

      (2) All other engines: 15 minutes

   c. Paragraphs (2) and (3) above shall not apply while maintenance, repair or testing is being performed by qualified mechanics.

5. Effective Date

The provisions of this subsection ___.02E shall become effective January 1, 1975.

___02F Visible Emissions from Ships

No person or agent shall cause, suffer, allow or permit the discharge of emissions from any ship in excess of the following limits:

	OPERATING MODE	MAXIMUM OPACITY OR RINGELMANN CHART NO.	ALLOWABLE TIME
(1)	Underway, at berth or at anchor	20% - 1	No limit
(2)	Soot blowing		
	a. Underway within one mile (1.6 kilometers) of any shore	--	No soot blowing allowed
	b.		
	(1) At Berth or Anchor within first or last 24 hours of arrival at or departure from any berth or anchor	--	No soot blowing allowed
	(2) Any other 24 hour period	No limit	15 minutes for each boiler in operation provided that no nuisance is created.
(3)	Cleaning and adjusting of combustion equipment while at berth or anchor	40% - 2	Not to aggregate more than 4 minutes in any 60 minutes period.
(4)	Start up of cold boiler or engine	No limit 60% - 3	5 consecutive minutes; 10 consecutive minutes additional
(5)	Anchoring, berthing or other maneuvering requiring rapid changes in power	80% - 4	No limit.
(6)	Upset/breakdown, emergency/casualty or Coast Guard safety tests	No limit	No limit. The control officer shall be notified as to the reason for the excessive emissions.
(7)	Docktrials of new or rebuilt boilers or engines.	No limit	No limit provided no nuisance is created and the control officer has been notified before 3:00 p.m. the day before the docktrials are to be conducted.

___03 CONTROL AND PROHIBITION OF PARTICULATE MATTER EMISSIONS

___03A General Conditions. All calculations of particulate matter emissions shall be made in terms of grains per standard cubic foot (milligrams per standard cubic centimeter)dry exhaust gas (gr/SCFD) (mg/dscm).

1. For fuel burning equipment calculations shall be corrected to 50% excess air.
2. For incineration plants and installations calculations shall be corrected to 12% carbon dioxide and as if no auxiliary fuel has been used.

___03B *Control of Particulate Matter from Fuel Burning Equipment

1. General Conditions for Fuel Burning Equipment
   - a. When two or more fuel burning equipment units are connected to a single stack, the combined heat input of all units connected to the stack shall be used to determine the allowable emissions from the stack.
   - b. When a single fuel burning equipment unit is connected to two or more stacks, the allowable emissions from all the stacks combined shall not exceed that allowable for the same unit if connected to a single stack.
2. New Fuel Burning Equipment
   - a. No person shall cause, suffer, allow or permit particulate matter caused by the combustion of fuel oil in any fuel burning equipment erected after January 17, 1972 to be discharged into the atmosphere in excess of the amounts shown in Table 1.
   - b. No person shall cause, suffer, allow or permit particulate matter caused by combustion of solid fuel in any fuel burning equipment erected after January 17, 1972 to be discharged into the atmosphere in excess of the amounts shown in Table 1.
   - c. Dust Collection Devices Required on New Fuel Equipment.
     - (1) No person shall cause, suffer, allow or permit the combustion of residual oil in any fuel burning equipment erected after January 17, 1972 with a maximum heat input of 13 million BTU/hour (13.7 gigajoules/hour) or more unless such equipment is fitted with a dust collector, which is so designed that it can reasonably be expected to produce sufficient dust particle force, residence time and particle retention to satisfy the requirements of Table 1.

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* Consent Order for Becell Jr. High School of Frostburg. See NonRegulatory Section Federal Register Publication 3/18/80.

(2) No person shall cause, suffer, allow or permit the combustion of solid fuel in any fuel burning equipment erected after January 17, 1972 unless such equipment is fitted with a dust collector which is so designed that it can reasonably be expected to produce sufficient dust particle force, residence time and particle retention to satisfy the requirements of Table 1.

3. Existing and Modified Fuel Burning Equipment. No person shall cause, suffer, allow or permit particulate matter caused by the combustion of fuel in any fuel burning equipment existing or modified before January 17, 1972 to be discharged from any stack or chimney into the atmosphere in excess of the hourly rate set forth in the following table.

Heat Input in Million BTU per hour (gigajoules per hour)		Maximum Allowable Discharge of Particulate Matter in Pounds per million BTU (Grams/Gigajoule) from Existing and Modified Fuel Burning Installations	
Up to and including 10	(10.55)	0.60	(258)
10,000 and greater	(10550)	0.12	(51.6)

For a heat input between the heat inputs stated in the preceding table, maximum allowable discharge of particulate matter is shown for existing and modified fuel burning equipment on Figure 1. For the purposes hereof, heat input shall be calculated as the aggregate heat content of all fuels whose products of combustion pass through the stack or chimney.

4. Exceptions. The Control Officer may grant exceptions to ___03B3 above under the following conditions:

   a. When the application of subsection ___03B3 to a residential building housing two or less families creates undue economic hardship on individuals residing therein or,

   b. When the installation's primary way of transferring heat is by the radiant method rather than a piped fluid system such as forced hot air, hydronic, or steam. Plants in this category would include stoves, room heaters, floor or wall mounted circulating heaters, fireplaces or similar devices.

___03C Particulate Matter from Incineration Plants and Installations

1. New Incineration Plants.

   a. No person shall cause, suffer, allow or permit to be discharged into the atmosphere particulate matter to exceed 0.10 gr/SCFD (229 mg/dscm) from any new incineration plant other than pathological that has a burning capacity less than 1 ton (907 kilograms) of refuse per hour and is used to burn less than 5 tons (4540 kilograms) of refuse per day.

b. No person shall cause, suffer, allow or permit to be discharged into the atmosphere particulate matter to exceed 0.03 gr/SCFD (69 mg/dscm) from any new incineration plant that has a burning capacity equal to or greater than 1 ton (907 kilograms) of refuse per hour or is used to burn 5 tons (4540 kilograms) or more of refuse per day.

c. No person shall cause, suffer, allow or permit to be discharged into the atmosphere particulate matter to exceed 0.1 gr/SCFD (229 mg/dscm) from any new pathological incineration plant. Medical waste may be burned in such units, provided that the unit has been approved for that purpose by the Department.

2. Existing and Modified Incineration Installations. No person shall cause, suffer, allow, or permit to be discharged into the outdoor atmosphere from any existing or modified incinerator the following:

a. From any existing or modified incinerator burning less than 200 pounds (90.7 kilograms) of refuse per hour, particulate matter to exceed 0.3 gr/SCFD (687 mg/dscm).

b. From any existing or modified incinerator burning 200 (90.7 kilograms) pounds or more of refuse per hour, particulate matter to exceed 0.2 gr/SCFD (458 mg/dscm).

c. From any existing or modified pathological incinerator, particulate matter to exceed 0.3 gr/SCFD (687 mg/dscm). Medical waste may be burned in such units, provided that the unit has been approved for that purpose by the Department.

___03D Particulate Matter from Agricultural Operations.

2. Control of Orchard Heaters.

General. No person shall cause, suffer, allow or permit to be used any type of orchard heater or other such frost control device which discharges into the atmosphere more than one gram per minute of unconsumed carbonaceous matter.

___03E Particulate Matter from Other Plants and Installations.

1. Other New Plant.

a. No person shall cause, suffer, allow or permit to be discharged into the outdoor atmosphere from any other new process plant, particulate matter in excess of 0.03 gr/SCFD (69 mg/dscm.).

b. The maximum allowable weight of particulate matter discharged per hour from any other new process plant shall not exceed that determined from Table 2. Where the process weight per hour falls between two values in the table, the maximum weight discharged per hour shall be determined by linear interpolation. When the process weight exceeds 60,000 pounds per hour (27,200 kilograms per hour), the maximum allowable weight discharged per hour will be determined by the use of the following equation:

$E = 55.0\ P^{0.11} - 40$	($E = 11.79\ P^{0.11} - 18.14$)
E = Maximum weight discharged per hour (lbs.)	(E = Maximum weight discharged per hour (kg))
P = Process weight rate in tons per hour	(P = Process weight rate in kilograms per hour)

This limitation shall supersede the requirements of section __03E1a if it requires a lower emission rate per hour.

2. Other Existing and Modified Process Installations.

a. Existing and Modified Bituminous Concrete Manufacturing Installations. No person shall cause, suffer, allow or permit to be discharged into the atmosphere from any existing or modified bituminous concrete manufacturing installation particulate matter in excess of 0.03 gr/SCFD (69 mg/dscm).

b. Other Existing and Modified Installations.

(1) The maximum allowable weight of particulate matter discharged per hour from any other existing or modified process installation shall not exceed that determined from Table 2. Where the process weight per hour falls between two values in the table, the maximum weight discharged per hour shall be determined by linear interpolation. When the process weight exceeds 60,000 pounds per hour (27,200 kilograms per hour), the maximum allowable weight discharged per hour will be determined by use of the following equation:

$E = 55.0\ P^{0.11} - 40$	($E = 11.79\ P^{0.11} - 18.14$)
Where E = Maximum weight discharged per hour (lbs.)	(E = Maximum weight discharged per hour (kg))
P = Process weight rate in tons per hour	(P = Process weight in kilograms per hour)

(2) For those processes in which the process weight per hour exceeds 60,000 pounds (27,200 kilograms), the maximum allowable weight of particulate matter discharged per hour may exceed that calculated by the above equation providing that the concentration of particulate matter in the gases discharged to the atmosphere is less than 0.05 gr/SCFD (115 mg/dscm).

__03F Particulate Matter from Materials Handling and Construction and Other

1. No person shall cause, suffer, allow or permit any material to be

handled, transported or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when appropriate as determined by the Control Officer, but not be limited to the following:

a. Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;

b. Application of asphalt, oil, water or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts;

c. Installation and use of hoods, fans and dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operations;

d. Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution. Alternate means may be employed to achieve the same results as would covering;

e. The paving of roadways and their maintenance in a clean condition;

f. The prompt removal from paved streets of earth or other material which has been transported thereto by trucks or earth moving equipment or erosion by water.

2. No person shall cause, suffer, allow or permit visible emissions beyond the lot line of the property on which the emissions originate.

___04 CONTROL AND PROHIBITION OF GAS AND VAPOR EMISSIONS

___04A General.

1. Odors. No person shall cause, suffer, allow or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.

2. General Conditions. All calculations of emissions governed by ___04C shall be adjusted to standard conditions. PPM shall mean parts per million by volume.

___04B *Sulfur Oxides from the Burning of Fuel. No person shall burn, sell or make available for sale any fuel unless the following conditions are met:

* Consent order for Westvaco Corporation of Luke. See NonRegulatory Section Federal Register Publication 4/25/80

1. On and after July 1, 1970, all solid fuels burned on a premise where the sum total maximum rated heat input of all fuel burning equipment located on the premises is 100 million BTU (106 gigajoules) per hour or greater, shall contain 1% or less sulfur by weight.

2. On and after July 1, 1970, all residual fuel oil shall contain 1% or less sulfur by weight.

3. Distillate fuel oils, 0.3 percent, July 1, 1980.

4. Process gas used as a fuel shall contain not more than 0.3% sulfur by weight.

(50.2) ___04C Sulfur Compounds from Other than Fuel Burning Equipment.

1. No person shall cause, suffer, allow or permit the discharge into the atmosphere from installations other than fuel burning installations of gases containing more than 500 ppm of sulfur dioxide. Such installations constructed prior to January 17, 1972 shall be limited to not more than 2,000 ppm sulfur dioxide.

2. No person shall cause, suffer, allow or permit the discharge into the atmosphere from installations other than fuel burning installations of gases containing sulfuric acid, sulfur trioxide, or any combination thereof greater than 35 milligrams per cubic meter reported as sulfuric acid. Such installations constructed prior to January 17, 1972 shall be limited to not more than 70 milligrams per cubic meter of sulfuric acid, sulfur trioxide or any combination thereof reported as sulfuric acid.

3. No person shall cause, suffer, allow or permit the discharge of a process gas containing hydrogen sulfide into the atmosphere from a petroleum refinery unless the gas stream is burned in an afterburner at 1300°F for not less than 0.3 seconds or in an equivalent device approved by the Department.

4. No person shall cause, suffer, allow or permit the discharge of process gas containing more than 0.1 gr/SCFD (229 mg/dscm) hydrogen sulfide into a petroleum refinery afterburner or gas collection system conducted to an afterburner.

5. No person shall construct equipment such as pumping or compressing equipment handling a hydrogen sulfide-bearing material in petroleum refinery unless the equipment is fitted with mechanical seals, or other sealing devices with equal or greater efficiency approved by the Department.

6. No person shall cause, suffer, allow or permit the use of any safety pressure relief valve on equipment handling hydrogen sulfide-bearing materials in a petroleum refinery at a pressure of 15 lbs. per square inch (103 kiloneuton per square meter) absolute unless the safety pressure relief valve is vented to a vapor recovery or incineration system, protected by a rupture disc, or is maintained by an inspection system approved by the Department.

___04D Exceptions.

1. Fuels containing sulfur in excess of the amounts specified in ___04B may be burned, sold, or made available for sale provided control equipment to desulfurize stack gases has been installed or other methods or devices are employed by the user or purchaser such that the discharge of sulfur dioxide to the atmosphere does not exceed 0.5 pounds per million BTU of heat input to the associated installation in which such fuel is burned.

2. The Secretary may authorize the operation of a scavenger or recovery plant to reclaim sulfur compounds which would otherwise be discharged into the air provided the operation of such a scavenger or recovery plant would reduce total discharge of sulfur compounds at least 95% with said plant in operation compared to discharge when the aforementioned plant is not operating. Such authorization may result in discharge of sulfur compounds whose concentration exceed those permitted by subsections 1 and 2 of ___04C. This subsection shall not apply to sulfuric acid manufacturing operations.

3. Fuel burning installations on ships shall be exempt from the provisions of this section pertaining to the burning of fuel of specified sulfur content.

4. Paragraphs .04C(3) and .04c(4) shall not apply to the combustion of process upset gas in a flare, or the combustion in a flare of process gas or fuel gas released to the flare as a result of relief valve leakage.

___04E Request for Analysis. Any person offering to sell or deliver fuel or any person responsible for installations in which fuel or process gas is burned shall, upon request, submit to the Department or the Control Officer such analyses of the fuel or process gas as may be required to determine compliance with this section.

___04F Control of Odors from the Reduction of Offal

1. No person shall cause, suffer, allow or permit the use of an installation primarily engaged in the reduction of offal unless all gases, vapors and gas-entrained matter from said installation are:

   a. First cooled to a temperature of no greater than 160°F (71°C) and then

   b. The non-condensible fraction is incinerated at a temperature of not less than 1400°F (760°C) for a period of not less than 0.4 seconds.

   c. Alternate methods may be used if determined by the Department to be equally or more effective for the purpose of controlling air pollutions.

2. Any person processing or incinerating gases, vapors or gas-entrained matter as required by subsection ___04F1 shall, when ordered by the Department, install, operate, and maintain in good working order and calibration, continuous recording devices for indicating temperature, or pressure or other operating conditions. Such devices shall be approved by the Department and all data collected shall, when ordered by the Department, be made available to the Department or the Control Officer for inspection or copying. Such data shall be kept on file by responsible persons for at least 60 days.

3. No person shall cause, suffer, allow or permit any offal or vegetable oil to be handled, transported or stored or to undertake the preparation of any offal without taking reasonable precautions to prevent odors from being discharged. Such reasonable precautions, when approved by the Department, shall include but not be limited to the following:

   a. Storage of all offal prior to or in the process of preparation in properly enclosed and vented equipment or areas, together with the use of effective devices and/or methods to prevent emission of odors or odor bearing gases.

   b. Use of covered vehicles of watertight construction for the handling and transporting of offal.

   c. Use of hoods and fans to enclose and vent the storage, handling, preparation and conveying of any odorous materials together with effective devices and/or methods to prevent emissions of odors or odor bearing gases.

4. Whenever the emissions from an installation primarily engaged in the reduction of offal create a nuisance or air pollution, beyond the property line, the Department may require that the building in which such installation is located by tightly closed and vented so that all emissions are treated by incineration or by other methods if determined by the Department to be equally or more effective for the purpose of controlling emissions.

5. The requirements of this subsection ___04F shall not apply to any installation engaged exclusively in the processing of food for human consumption.

___04G Nitrogen Oxides from New Fuel Burning Equipment.

a. No person shall cause, suffer, allow or permit the discharge of nitrogen oxides into the atmosphere, from any fuel burning equipment built after May 12, 1972 having a heat input rating of 250 million British Thermal Units (BTU) (264 gigajoules) per hour, or more, in excess of the following rates:

(1) 0.20 pounds per million BTU (86 gm per gigajoule) heat input, maximum two hour average, expressed as NO_2 when gaseous fuel is burned.

(2) 0.30 pounds per million BTU (129 gm per gigajoule) heat input, maximum two hour average, expressed as NO_2 when liquid fuel is burned.

(3) 0.50 pounds per million BTU (215 gm per gigajoule) heat input, maximum two hour average, expressed as NO_2 when solid fuel is burned.

b. Exceptions. Fuel burning installations on ships shall be exempt from the provision of this subsection.

___04H Nitrogen Oxides from Nitric Acid Plants.

No person shall cause, suffer, allow or permit the discharge into the atmosphere from any nitric acid plant, nitrogen oxides in excess of 3.0 pounds per ton (1.50 kilograms per 1000 kilograms) of acid (100 percent basis) produced.

___04I Reserved.

___04J Hydrocarbons From Other than Fuel Burning Equipment

1. Definitions for purposes of these regulations:

a. "Organic Material" shall mean chemical compounds of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbonates, metallic carbides and ammonium carbonates.

b. "True Vapor Pressure" shall mean the absolute pressure in pounds per square inch (kiloneutons per square meter) determined at storage conditions. Storage conditions shall be taken as the average monthly temperature. If the storage is subject to solar and ambient heat gain only, the temperature shall be taken as the average monthly temperature, to a maximum average of °F77 (25°C) (average storage temperature for May through September). True vapor pressure shall be determined by measurement at the storage conditions or by the use of a nemograph, published by the Coordinating Research Council and included with these regulations as Figure 3, relating true vapor pressure to Reid vapor pressure and storage temperature.

2. Organic Material

a. After July 1, 1974, no person shall cause, suffer, allow or permit organic material having a true vapor pressure in the range of 1.5 to 11 psi (10.3 to 75.0 KN/m^2) inclusive to be placed, stored or held in any new stationary tank reservoir with a capacity of greater than 40,000 gallons (151 cubic meters) unless the tank is equipped with one or more of the following organic material vapor control devices, properly installed, well-maintained and in operating condition.

(1) A floating roof resting on the surface of the liquid contents equipped with a closure seal, or seals, to close the space between the roof edge and tank wall, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(2) A pressure tank system maintaining a pressure at all times so as to prevent organic material loss to the atmosphere, or

(3) A vapor recovery system capable of collecting the organic materials emitted from the tank and disposing of these emissions so as to prevent their emission to the atmosphere and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(4) Other equipment equal or greater in efficiency to those devices listed above, and approved by the Department.

b. After July 1, 1974 no person shall cause, suffer, allow or permit organic materials having a true vapor pressure greater than 11 psi (75.8 KN/m^2) to be placed, stored or held in any new stationary tank reservoir with a capacity greater than 40,000 gallons (151 cubic meters) unless equipped with one of the following organic material vapor control devices properly installed, well-maintained and in operating condition:

(1) A pressure tank system maintaining a pressure at all times so as to prevent organic material loss to the atmosphere, or

(2) A vapor recovery system capable of collecting the organic materials emitted from the tank and disposing of these emissions so as to prevent their emission to the atmosphere, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(3) Other equipment equal or greater in efficiency to those devices listed above, and approved by the Department.

___04K Use of Waste Oils as Fuel

1. No person shall burn, sell, or make available for use as fuel in any installation any waste oil including but not limited to, used petroleum products, crank case draining, cutting oils, vegetable oils, or combustible fluids salvaged from any automotive or industrial use without obtaining the prior approval of the Department.

2. Any person desiring to use waste oil as a fuel in any installation shall, prior to the use thereof, submit to the Department such information and analysis as the Department may require.

3. After consideration of the information submitted by a prospective user of waste oil the Department shall enter an Order approving or disallowing the use of such fuel or approving its use with such conditions as the Department finds necessary. In the event the Department shall disapprove or condition the use of such fuel a person aggrieved by the Order may request a hearing within 10 days after receipt of the Order. Where a hearing is requested, it shall be held pursuant to Article 43, Section 698(c) (d) of the Annotated Code of Maryland.

___05 Reserved

Add (X)

___06 CONTROL AND PROHIBITION OF INSTALLATIONS AND OPERATIONS

___06A General. No installation or premise shall be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation shall in any manner be construed as authorizing or permitting the creation of or maintenance of a nuisance or air pollution.

___06B Circumvention. No person shall install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total weight of emissions, conceals or dilutes an emission which would otherwise constitute a violation of any applicable air pollution control regulation.

___06C Refuse Burning Prohibited in Certain Installations. No person shall burn refuse in any plant, installation or equipment not specifically designed, constructed or modified for that purpose.

___06D * Prohibition of Certain New Fuel Burning Equipment

1. No person shall construct a new fuel burning equipment designed for use of residual fuel oil in which any individual furnace has a rated heat input of less than five million BTU per hour nor shall residual fuel oil be used at any time in any new fuel burning equipment having a rated heat input of less than thirteen million BTU (13.7 gigajoules) per hour.

2. No person shall construct a new fuel burning equipment designed for the use of a solid fuel in which any individual furnace has a rated heat input of less than 150 million BTU per hour nor shall a solid fuel be used at any time in any such fuel burning equipment having a rated heat input of less than 150 million BTU per hour.

3. No person shall construct fuel burning equipment fitted with a rotary cup burner or replace a burner with a rotary cup burner.

4. Exceptions. New fuel burning installations on ships shall be exempted from paragraph (1) of this subsection.

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* Consent Order for Becell Jr. High School of Frostburg. See NonRegulatory Section Federal Register Publication 3/18/80.

___06E Control of Sources of Fluoride Emissions.

1. No person shall cause, suffer, allow or permit the discharge into the atmosphere of fluorides from any installation in such combinations and in such amounts that any provision of the ambient air quality standards for fluorides set forth in 10.03.35.04E is contravened.

2. Surveillance

   a. Existing Installation Surveillance Program.

   A person responsible for an installation discharging fluorides shall conduct a continuing environmental surveillance program, in a manner approved by the Department, to determine whether ambient air quality standards for fluorides are violated.

   b. New Installation Surveillance Program.

   No "Permit to construct will be issued for any new potential source of fluoride emissions until the applicant has conducted a survey of background levels of fluoride in the environment in a manner and to an extent approved by the Department. Applicants for a "Permit to Operate" shall be subject to the requirements of ___06E2a.

   c. Reporting.

   All data collected by the environmental programs and surveys of fluorides, required by this subsection. shall be maintained and made available to the Department in a manner and on a schedule approved by the Department. Such data shall be available to the public.

   d. Modification of Surveillance Programs.

   Any modification to the environmental programs and surveys, required under this subsection, must be approved by the Department. Such modification may be initiated by the Department.

___07 TRANSITION FROM PREVIOUS REGULATIONS

___07A Previous Plans for Compliance. All plans for compliance with regulations 43P02 as it became effective on January 28, 1969, which have been approved by the Secretary shall be evaluated by the Department. Any part of such plans which the Department determines relate to an installation which is subject to more restrictive emission control requirements under terms of this amended regulation 10.03.36, as compared to the respective requirements of regulation 43P02 as it became effective on January 28, 1969, will be null and void. If a plan for compliance is declared null and void, an amended plan may be submitted to the Department.

___07B Previous Regulations Remain in Effect in Certain Cases. Provisions of regulation 43P02 as adopted on January 28, 1969 shall remain in effect with regard to installations, plants and matters dealt with in these amendments until the effective dates provided for by these amendments are applicable to the respective plants, installations or matters.

Further [illegible] in original [illegible]

1 -- Plants Built On Or After January 17, 1972.
2 -- Installations Built January 17, 1972.
3 -- Plants Built On or After January 17, 1972.
4 -- Installations Built January 17, 1972.
5 -- Plants Built On or After January 17, 1972.
6 -- Installations Built January 17, 1972.
7 -- Plants Built On or After January 17, 1972.
8 -- Installations Built January 17, 1972.
9 -- January 17, 1972
10 -- January 17, 1972
11 -- Equipment Built On or After May 12, 1972.
12 -- Plants Built Before May 12, 1972.
13 -- Plants Built On or After May 12, 1972.
14 -- Plants Built On or After January 17, 1972.

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Margin

MARYLAND STATE DEPARTMENT OF HEALTH AND MENTAL HYGIENE

301 West Preston Street
Baltimore, Maryland 21201

(As Amended through December 17, 1974)

10.03.37 Regulations Governing the Control of Air Pollution in Area II†

Pursuant to the authority conferred upon the Secretary of Health and Mental Hygiene by Article 43, Annotated Code of Maryland, 1957 Edition, and Supplement, the following regulations governing the control of air pollution in Area II are hereby established as requirements of the Department of Health and Mental Hygiene.

___01 CONTROL AND PROHIBITION OF OPEN FIRES

___01A General. No person shall cause, suffer, allow or permit an open fire except as provided in section ___01B, ___01C, and ___01D.

___01B Control Officer May Authorize Certain Open Fires.

1. Subject to review by the Department, the Control Officer may, upon receipt of an application made on forms provided by the Department or local fire control agency, issue or approve a permit in writing allowing an open fire provided all of the following conditions are met:
    a. The Control Officer is satisfied that there is no practical alternate method to dispose of the material to be burned or to conduct the desired activities.
    b. No hazardous condition or air pollution or nuisance will be created.
    c. Fire control laws or regulations of other governmental agencies will not be violated.
    d. No materials which produce dense smoke when burned, including but not limited to tires and roofing material, will be burned.
    e. The material to be burned shall have originated on the premises on which it is to be burned.
2. The Control Officer may impose other conditions to minimize creation of smoke, to prevent nuisances and air pollution, and to protect the health, safety, comfort and property of any persons.

___01C Public Officer May Authorize Certain Fires.

Public officers, in the performance of their official duties, may set

an open fire or give permission for an open fire, with concurrence of the Control Officer, provided all reasonable means are employed to minimize smoke if the fire is necessary for one or more of the following reasons or purposes:

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†Editor's Note: Central Maryland Area Comprised of Frederick County.

1. For the prevention of a fire hazard that cannot be abated by other means.

2. For the instruction of public fire fighters or industrial employees under supervision of the appropriate fire control official.

3. For the protection of public health or safety when other means for disposing of hazardous materials are not available.

___01D Allowed Open Fires. Open fires otherwise in conformance with other govermental fire control ordinances, provided no nuisance or air pollution is created, are allowed without permission as follows:

1. In those areas where no provision is made for public collection of leaves, the open burning of leaves originating on the premises by householders is permitted. On and after July 1, 1973, no leaves shall be burned at locations closer than 200 feet from any neighboring habitable dwelling or place where people work or congregate.

2. In those areas where no provision is made for public collection of refuse, burning of ordinary household trash (I.I.A. Waste types 0 and 1 only) originating on the premises, excluding commercial establishments, by householders is permitted provided that:

    a. Materials are not to be burned which create dense smoke emissions of greater than 40% opacity or darker in shade or appearance than designated as No. 2 on the Ringelmann Smoke Chart.

    b. On and after July 1, 1973, no refuse shall be burned at locations closer than 200 feet from any neighboring habitable dwelling or place where people work or congregate.

3. Cooking of Food.

4. Fires set in the course of agricultural operations in growing crops or raising fowl or animals or in accepted forestry practice. In no case shall this provision be construed as allowing the burning of ordinary household or barnyard trash in areas where provision is made for public collection of refuse.

5. Recreational purposes, such as campfires.

6. Oil or gas fired salamanders or similar devies designated spec-

ifically for space heating or warming of outdoor workers, etc., provided no visible emissions are created.

7. Warming fires for outdoor workers, providing smoke emissions are not darker in shade or appearance than those designated as No. 2 on the Ringelmann Smoke Chart or greater than 40% opacity, and the fires are located no closer than 200 feet from any neighboring habitable building.

___02 CONTROL AND PROHIBITION OF VISIBLE EMISSIONS

___02A For the purpose of these regulations:

1. "Existing installations or equipment" shall mean those erected prior to January 17, 1972.

2. "Modified installation or equipment" shall mean those altered, changed or added to on or after January 17, 1972.

3. "New Plant" shall mean any installation for which the major proportion of the fuel burning incineration, processing or manufacturing equipment in the installation was erected on or after January 17, 1972. This definition is not intended to apply to a "modified installation" where new control equipment is added to an existing installation. In questionable cases, the determination of new plants shall be made by the Department.

___02B* Visible Emissions from New Plants. No person shall cause, suffer, allow or permit the discharge of emissions from any new plant of building other than water in an uncombined form, which are visible to human obeervers.

___02C Visible Emissions from Existing and Modified Installations.

1. Existing and Modified Bituminous Concrete Manufacturing Plants. No person shall cause, suffer, allow or permit the discharge of emissions from any existing or modified bituminous concrete manufacturing installation other than water in an uncombined form, which are visible to human observers.

2. Other Existing and Modified Installations. No person shall cause, suffer, allow or permit emissions from any other existing installation, modified installation or building that are darker in shade or appearance than that designated as No. 1 on the Ringelmann Smoke Chart.

___020 Exceptions.

1. Subsections ___02B and ___02C shall not apply to emissions during the building of a new fire, cleaning of fires, soot blowing, start-up and process modification or adjustment, or occasional cleaning of control equipment, in shade or appearance than that designated as No. 2 on the Ringelmann Smoke Chart or greater than 40% opacity for a period or periods aggregating no more than four minutes in any sixty minutes.

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* Consent order for Mount St. Mary's College. See NonRegulatory Section Federal Register Publication date 3/18/80.

2. Any person who believes that meeting the requirements of subsection ___02B is not practical in a particular instance may request an exception to the requirements of subsection ___02B. Such a request shall be submitted to the Department in writing and include evidence to show why compliance is not practical. Upon the receipt of a request for an exception, the Department shall schedule a public hearing to be held within 60 days. The applicant for the exception shall, at least 30 days prior to the hearing date, prominently advertise the hearing by notice in a newspaper of general circulation in the Subdivision in which the facility or source for which the exception is sought is located. The notice shall include the name of the facility or source and such additional information as the Department may require. Based upon the evidence presented at the hearing the Secretary may grant an exception for a period not to exceed five years to subsection .02B under such other terms and conditions as are appropriate to reduce the impact of the exception.

3. Subsection ___02B shall not apply to emissions of the following:

   a. From the burning of wood in fireplaces on premises used for residential or recreational purposes;

   b. From open fires (except salamanders) permitted under provisions of subsections ___01B, ___01C and ___01D of this regulation.

4. The Control Officer may grant exceptions to ___02C above under the following conditions:

   a. When the application of ___02C to a residential building housing two or less families creates undue economic hardship on individuals residing therein, or

   b. When the installation's primary way of transferring heat is by the radiant method rather than a piped fluid system such as forced hot air, hydronic, or steam. Installations in this category would include stoves, room heaters, floor or wall mounted circulating heaters or similar devices.

02E Visible Emissions from Internal Combustion Engine Powered Equipment.

1. Definitions

   For the purpose of this regulation:

   a. "Internal Combustion Engine", hereafter referred to as "engine" shall mean all engines except those used for propulsion of ships or vehicles licensed to operate upon the public highways within the State, or engines employed solely for agricultural and recreational purposes unless it is an integral part of a stationary installation.

b. "Idle" shall mean the condition during which the engine is not performing useful net work to enable the piece of equipment to accomplish its designated purpose(s).

2. Emissions During Idle Mode

No person shall cause, suffer, allow or permit the discharge of emissions from any engine operating at idle of greater than (10%) opacity or darker in shade or appearance than that designated as No. 1/2 on the Ringelmann Smode Chart except for the allowable discharge of water in an uncombined form.

3. Emissions During Operating Mode

No person shall cause, suffer, allow or permit emissions from any engine, operating at other than idle conditions greater than (40%) opacity or darker in shade or appearance than that designated as No. 2 on the Ringelmann Smoke Chart.

4. Exceptions

a. Paragraph (2) above shall not apply for a period of two consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

b. Paragraph (2) above shall not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:

(1) Engines that are idled continuously when not in service: 30 minutes.

(2) All other engines: 15 minutes

c. Paragraphs (2) and (3) above shall not apply while maintenance, repair or testing is being performed by qualified mechanics.

5. Effective Date

The provisions of this subsection ___02E shall become effective January 1, 1975.

___02F Visible Emissions from Ships

No person or agent shall cause, suffer, allow or permit the discharge of emissions from any ship in excess of the following limits:

	OPERATING MODE	MAXIMUM OPACITY OR RINGELMANN CHART NO.	ALLOWABLE TIME
(1)	Underway, at berth or at anchor	20% - 1	No limit
(2)	Soot blowing		
	a. Within one mile of any shore while underway	--	No soot blowing allowed
	b. Within first or last 24 hours of arrival at or departure from any berth or anchor	--	No soot blowing allowed/
	c. Any other 24 hour period	No limit	15 minutes for each boiler in operation provided that no nuisance is created.
(3)	Cleaning and adjusting of combustion equipment while at berth or anchor	40% - 2	Not to aggregate more than 4 minutes in any 60 minutes period.
(4)	Start up of cold boiler or engine	60% - 3 No limit	5 consecutive minutes; 10 consecutive minutes additional
(5)	Anchoring, berthing or other maneuvering requiring rapid changes in power	80% - 4	No limit.
(6)	Upset/breakdown, emergency/casualty or Coast Guard safety tests	No limit	No limit. The control officer shall be notified as to the reason for the excessive emissions.
(7)	Docktrials of new or rebuilt boilers or engines.	No limit	No limit provided no nuisance is created and the control officer has been notified before 3:00 p.m. the day before the docktrials are to be conducted.

__03 CONTROL AND PROHIBITION OF PARTICULATE MATTER EMISSIONS

__03A General Conditions. All calculations of particulate matter emissions shall be made in terms of grains per standard cubic foot dry exhaust gas (gr/SCFD).

1. For fuel burning equipment calculations shall be corrected to 50% excess air.
2. For incineration plants and installations calculations shall be corrected to 12% carbon dioxide and as if no auxiliary fuel has been used.

__03B *Control of Particulate Matter from Fuel Burning Plants and Installations.

1. General Conditions for Fuel Burning Equipment.
   a. When two or more fuel burning equipment units are connected to a single stack, the combined heat input of all units connected to the stack shall be used to determine the allowable emissions from all the stacks combined shall not exceed that allowable for the same unit if connected to a single stack.
   b. When a single fuel burning equipment units is connected to two or more stacks, the allowable emissions from all the stacks combined shall not exceed that allowable for the same unit if connected to a single stack.
2. New Fuel Burning Equipment.
   a. No person shall cause, suffer, allow or permit particulate matter caused by the combustion of fuel oil in any fuel burning equipment erected after January 17, 1972 to be discharged into the atmosphere in excess of the amounts shown in Table 1.
   b. No person shall cause, suffer, allow or permit particulate matter caused by combustion of solid fuel in any fuel burning equipment erected after January 17, 1972 to be discharged into the atmosphere in excess of the amounts shown in Table 1.
   c. Dust Collecting Devices Required on New Fuel Burning Equipment.
      (1) No person shall cause, suffer, allow or permit the combustion of residual oil in any fuel burning equipment erected after January 17, 1972 with a maximum

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* Consent order for Mount St. Mary's College. See NonRegulatory Section Federal Register Publication date 3/18/80.

heat input of 13 x 10^6 BTU/hour or more unless such equipment is fitted with a dust collector, which is so designed that it can reasonably be expected to produce sufficient dust particle force, residence time and particle retention to satisfy the requirements of Table 1.

(2) No person shall cause, suffer, allow or permit the combustion of solid fuel in any fuel burning equipment erected after January 17, 1972 unless such equipment is fitted with a dust collector which is so designed that it can reasonably be expected to produce sufficient dust particle force, residence time and particle retention to satisfy the requirements of Table 1.

3. Existing and Modified Fuel Burning Equipment

No person shall cause, suffer, allow or permit particulate matter caused by the combustion of fuel in any fuel burning equipment existing or modified before January 17, 1972 to be discharged from any stack or chimney into the atmosphere in excess of the hourly rate set forth in the following table.

Heat input in Million BTU per hour	Maximum Allowable Discharge of Particulate Matter in Pounds per million BTU from Existing and Modified Fuel Burning Installations
Up to and including 10	0.60
10,000 and greater	0.12

For a heat input between the heat inputs stated in the preceding table, maximum allowable discharge of particulate matter is shown for existing and modified fuel burning equipment on Figure 1. For the purposes hereof, heat input shall be calculated as the aggregate heat content of all fuels whose products of combustion pass through the stack or chimney.

4. Exceptions.

a. Interruptible Gas Service. Fuel burning equipment burning gas with an interruptible gas service shall be exempt from the provisions of paragraphs .03B(2) and .03B(3).

b. The Control Officer may grant exceptions to ___03B3 above under the following conditions:

(1) When the application of subsection ___03B3 to a residential building housing two or less families creates undue economic hardship on individuals residing therein, or

(2) When the equipment's primary way of transferring heat is by the radiant method rather than a piped fluid system such as forced hot air, hydronic, or steam. Equipment in this category would include stoves, room heaters, floor or wall mounted circulating heaters, fireplaces or similar devices.

c. Fuel burning installations on ships shall be exempted from the provisions of Section .03.

___03C Particulate Matter from Incineration Plants and Installations.

1. New Incineration Plants.

a. No person shall cause, suffer, allow or permit to be discharged into the atmosphere particulate matter to exceed 0.10 gr/SCFD from any new incineration plant "other than pathological" that has a burning capacity less than one ton of refuse per hour and is used to burn less than one ton of refuse per hour and is used to burn less than five tons of refuse per day.

b. No person shall cause, suffer, allow or permit to be discharged into the atmosphere particulate matter to exceed 0.03 gr/SCFD from any new incineration plant that has a burning capacity equal to or greater than one ton of refuse per hour or is used to burn five tons or more of refuse per day.

c. No person shall cause, suffer, allow or permit to be discharged into the atmosphere particulate matter to exceed 0.03 gr/SCFD from any new pathological incineration plant. Medical waste may be burned in such units, provided that the unit has been approved for that purpose by the Department.

2. Existing and Modified Incineration Installations. No person shall cause, suffer, allow or permit to be discharged into the outdoor atmosphere from any existing or modified incinerator the following:

a. From any existing or modified incinerator burning less than 200 pounds of refuse per hour, particulate matter to exceed 0.3 gr/SCFD. add

b. From any existing or modified incinerator burning 200 or more pounds of refuse per hour, particulate matter exceed 0.2 gr/SCFD.

___03D Particulate Matter from Agricultural Operations.

2. Control of Orchard Heaters.

General. No person shall cause, suffer, allow or permit to be used any type of orchard heater or other such frost control device which discharges into the atmosphere more than one gram per minute of unconsumed carbonaceous matter.

___03E Particulate Matter from Other Plants and Installations.

1. Other New Plant.[7] Delete [illegible] & [illegible]

a. No person shall cause, suffer, allow or permit to be discharged into the outdoor atmosphere from any other new process plant, particulate matter in excess of 0.03 gr/SCFD.

b. The maximum allowable weight of particulate matter discharged per hour from any other new process plant shall not exceed that determined from Table 2. Where the process weight per hour falls between two values in the table, the maximum weight discharged per hour shall be determined by linear interpolation. When the process weight exceeds 60,000 pounds per hour, the maximum allowable weight discharged per hour will be determined by the use of the following equation:

$$E = 55.0\ P^{0.11} - 40$$

Where E = Maximum weight discharged per hour (lbs.)
P = Process weight rate in tons per hour

This limitation shall supersede the requirements of section ___030E1a if it requires a lower emission rate per hour.

2. Other Existing and Modified Process Installations.

a. Existing and Modified Bituminous Concrete Manufacturing Installations. No person shall cause, suffer, allow or permit to be discharged into the atmosphere from any existing or modified bituminous concrete manufacturing installation particulate matter in excess of 0.03 gr/SCFD.

b. Other Existing and Modified Installations.[8]

(1) The maximum allowable weight of particulate matter discharged per hour from any other existing or modified process installation shall not exceed that determined from Table 2. Where the process weight per hour falls between two values in the table, the maximum weight discharged per hour shall be determined by linear interpolation. When the process weight exceeds 60,000 pounds per hour, the maximum allowable weight discharged per hour will be determined by use of the following equation:

$$E = 55.0\ P^{0.11} - 40$$

Where E = Maximum weight discharged per hour (lbs.)
P = Process weight rate in tons per hour

(2) For those processes in which the process weight per hour exceeds 60,000 pounds, the maximum allowable weight of particulate matter discharged per hour may exceed that calculated by the above equation providing that the concentration of particulate matter in the gases discharged to the atmosphere is less than 0.05 gr/SCFD.

___03F Particulate Matter From Materials Handling and Construction and Other Acts.

1. No person shall cause, suffer, allow or permit any material to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when appropriate as determined by the Control Officer, but not be limited to the following:

   a. Use of water of chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;

   b. Application of asphalt, oil, water or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts;

   c. Installation and use of hoods, fans and dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operation;

   d. Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution. Alternate means may be employed to achieve the same results as would covering;

   e. The paving of roadways and their maintenance in a clean condition;

   f. The prompt removal from paved streets of earth or other material which has been transported thereto by trucks or earth moving equipment or erosion by water.

2. No person shall cause, suffer, allow or permit visible emissions beyond the lot line of the property on which the emissions originate.

___04 CONTROL AND PROHIBITION OF GAS, VAPOR AND ODOR EMISSIONS

___04A General.

1. Odors. No person shall cause, suffer, allow or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.

2. General Conditions. All calculations of emissions governed by ___04C shall be adjusted to standard conditions. PPM shall mean parts per million by volume.

___04B Sulfur Oxides from the Burning of Fuel. No person shall burn, sell or make available for sale any fuel unless the following conditions are met:

(1) The combustion of all solid fuels on a premise where the sum total maximum rated heat input of all fuel burning equipment located on the premise is 100 million BTU per hour or greater shall not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million BTU actual heat input per hour.

(2) On and after July 1, 1975, residual fuel oil, 2.0 percent.

(3) Distillate fuel oils, 0.3 percent to July 1, 1980.

(4) Process gas used as a fuel shall contain not more than 0.3% sulfur by weight.

___04C Sulfur Compounds from Other than Fuel Burning Installations.

1. No person shall cause, suffer, allow or permit the discharge into the atmosphere from installations other than fuel burning installations of gases containing more than 500 ppm of sulfur dioxide. Such installations constructed prior to January 17, 1972 shall be limited to not more than 2,000 ppm sulfur dioxide.

2. No person shall cause, suffer, allow or permit the discharge into the atmosphere from installations other than fuel burning installations of gases containing sulfuric acid, sulfur trioxide, or any combination thereof greater than 35 milligrams per cubic meter reported as sulfuric acid. Such installations constructed prior to January 17, 1972 shall be limited to not more than 70 milligrams per cubic meter of sulfuric acid, sulfur trioxide or any combination thereof reported as sulfuric acid.

3. No person shall cause, suffer, allow or permit the discharge of a process gas containing hydrogen sulfide into the atmosphere from a petroleum refinery unless the gas stream is burned in an afterburner at 1300°F for not less than 0.3 seconds or in an equivalent device approved by the Department.

4. No person shall cause, suffer, allow or permit the discharge of process gas containing more than 0.1 gr/SCFD hydrogen sulfide into a petroleum refinery, afterburner or gas collection system connected to an afterburner.

5. No person shall construct equipment such as pumping or compressing equipment handling a hydrogen sulfide-bearing material in petroleum refinery unless the equipment is fitted with mechanical seals, or other sealing devices with equal or greater efficiency approved by the Department.

6. No person shall cause, suffer, allow or permit the use of any safety pressure relief valve on equipment handling hydrogen sulfide-bearing materials in a petroleum refinery at a pressure of 15 lbs. per square inch absolute unless the safety pressure relief valve is vented to a vapor recovery or incineration system, protected by a rupture disc, or is maintained by an inspection system approved by the Department.

___04D Exceptions.

1. Fuels containing sulfur in excess of the amounts specified in ___04B may be burned, sold, or made available for sale provided control equipment to desulfurize stack gases has been installed or other methods or devices are employed by the user or purchaser such that the discharge of sulfur dioxide to the atmosphere does not exceed 0.5 pounds per million BTU of heat input to the associated installation in which such fuel is burned.

2. The Secretary may authorize the operation of a scavenger or recovery plant to reclaim sulfur compounds which would otherwise be discharged into the air provided the operation of such a scavenger or recovery plant would reduce total discharge of sulfur compounds at least 95% with said plant in operation compared to discharge when the aforementioned plant is not operating. Such authorization may result in discharge of sulfur compounds whose concentration exceed those permitted by subsections 1 and 2 of ___04C. This subsection shall not apply to sulfuric acid manufacturing operations.

3. Fuel burning installations on ships and the sale of fuel for such installations shall be exempt from the provisions of this section pertaining to the burning of fuel of specified sulfur content.

4. Paragraphs .04C(3) and .04C(4) shall not apply to the combustion of process upset gas in a flare, or the combustion in a flare of process gas or fuel gas released to the flare as a result of relief valve leakage.

___04E Request for Analysis. Any person offering to sell or deliver fuel or any person responsible for installations in which fuel or process gas is burned shall, upon request, submit to the Department or the Control Officer such analyses of the fuel or process gas as may be required to determine compliance with this section.

___04F Control of Odors from the Reduction of Offal.

1. No person shall cause, suffer, allow or permit the use of an installation primarily engaged in the reduction of offal unless all gases, vapors and gas-entrained matter from said installation are:

    a. First cooled to a temperature of not greater than 160°F and then

    b. The non-condensible fraction is incinerated at a termperature of not less than 1400°F for a period of not less than 0.4 seconds.

    c. Alternate methods may be used if determined by the Department to be equally or more effective for the purpose of controlling air pollution,

2. Any person processing or incinerating gases, vapors or gas-entrained matter as required by subsection ___04F1 shall when ordered by the Department install, operate and maintain in good working order and calibration, continuous recording devices for indicating temperature or pressure or other operating conditions. Such devices shall be approved by the Department and all data collected shall when ordered by the Department be made available to the Department or the Control Officer for inspection or copying. Such data shall be kept on file by responsible persons for at least 60 days.

3. No person shall cause, suffer, allow or permit any offal to be handled, transported or stored or to undertake the preparation of any offal without taking reasonable precautions to prevent odors from being discharged. Such reasonable precautions, when approved by the Department, shall include but not be limited to the following:

    a. Storage of all offal prior to or in the process of preparation in properly enclosed and vented equipment or areas, together with the use of effective devices and/or

methods to prevent the discharge of odors or odor bearing gases.

b. Use of covered vehicles of watertight construction for the handling and transporting of offal.

c. Use of hoods and fans to enclose and vent the storage, handling, preparation and conveying of any odorous materials together with effective devices and/or methods to prevent emission of odors or odor bearing gases.

4. Whenever the emissions from an installation primarily engaged in the reduction of offal create a nuisance or air pollution, beyond the property line, the Department may require that the building in which such installation is located be tightly closed and vented so that all emissions are treated by incineration or by other methods if determined by the Department to be equally or more effective for the purpose of controlling emissions.

5. The requirements of this subsection ___04F shall not apply to any installation engaged exclusively in the processing of food for human consumption.

___04G Nitrogen Oxides From New Fuel Burning Equipment.[11]

a. No person shall cause, suffer, allow or permit the discharge of nitrogen oxides into the atmosphere, from any fuel burning equipment built after May 12, 1972 having a heat input rating of 250 million British Thermal Units (BTU) per hour, or more, in excess of the following rates:

(1) 0.20 pounds per million BTU heat input, maximum two hour average, expressed as NO_2 when gaseous fuel is burned.

(2) 0.30 pounds per million BTU heat input, maximum two hour average, expressed as NO_2 when liquid fuel is burned.

(3) 0.50 pounds per million BTU heat input, maximum two hour average, expressed as NO_2 when solid fuel is burned.

b. Exceptions. Burl burning installations on ships shall be exempt from the provision of this subsection.

___04H Nitrogen Oxides from Nitric Acid Plants.

No person shall cause, suffer, allow or permit the discharge into the atmosphere from any nitric acid plant, nitrogen oxides in excess of 3.0 pounds per ton of acid (100 percent basis) produced.

.04I Reserved

.04J Hydrocarbons From Other than Fuel Burning Equipment

1. Definitions for purposes of these regulations:

   a. "Organic Material" shall mean chemical compounds of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbonates, metallic carbides and ammonium carbonates.

   b. "True Vapor Pressure" shall mean the absolute pressure in pounds per square inch determined at storage conditions. Storage conditions shall be taken as the average monthly temperature. If the storage is subject to solar and ambient heat gain only, the temperature shall be taken as the average monthly temperature, to a maximum average of 78°F (average storage temperature for May through September). True vapor pressure shall be determined by measurement at the storage conditions or by the use of a nemograph, published by the Coordinating Research Council and included with these regulations as Figure 3, relating true vapor pressure to Reid vapor pressure and storage temperature.

2. Organic Material

   a. After July 1, 1974, no person shall cause, suffer, allow or permit organic material having a true vapor pressure in the range of 1.5 to 11 psi inclusive to be placed, stored or held in any new stationary tank reservoir with a capacity of greater than 40,000 gallons unless the tank is equipped with one or more of the following organic material vapor control devices, properly installed, well-maintained and in operating condition.

      (1) A floating roof resting on the surface of the liquid contents equipped with a closure seal, or seals, to close the space between the roof edge and tank wall, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

      (2) A pressure tank system maintaining a pressure at all times so as to prevent organic material loss to the atmosphere, or

      (3) A vapor recovery system capable of collecting the organic materials emitted from the tank and disposing of these emissions so as to prevent their emission to the atmosphere and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(4) Other equipment equal or greater in efficiency to those devices listed above, and approved by the Department.

b. After July 1, 1974 no person shall cause, suffer, allow or permit organic materials having a true vapor pressure greater than 11 psi to be placed, stored or held in any new stationary tank reservoir with a capacity greater than 40,000 gallons unless equipped with one of the following organic material vapor control devices properly installed, well-maintained and in operating condition:

(1) A pressure tank system maintaining a pressure at all times so as to prevent organic material loss to the atmosphere, or

(2) A vapor recovery system capable of collecting the organic materials emitted from the tank and disposing of these emissions so as to prevent their emission to the atmosphere, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(3) Other equipment equal or greater in efficiency to those devices listed above, and approved by the Department.

___04K Use of Waste Oils as Fuel

1. No person shall burn, sell, or make available for use as fuel in any installation any waste oil including but not limited to, used petroleum products, crank case draining, cutting oils, vegetable oils, or combustible fluids salvaged from any automotive or industrial use without obtaining the prior approval of the Department.

2. Any person desiring to use waste oil as a fuel in any installation shall, prior to the use thereof, submit to the Department such information and analysis as the Department may require.

3. After consideration of the information submitted by a prospective user of waste oil the Department shall enter an Order approving or disallowing the use of such fuel or approving its use with such conditions as the Department finds necessary. In the event the Department shall disapprove or condition the use of such fuel a person aggrieved by the Order may request a hearing within 10 days after receipt of the Order. Where a hearing is requested, it shall be held pursuant to Article 43, Section 698(c) (d) of the Annotated Code of Maryland:

___05 RESERVED

(2.0) ___06 CONTROL AND PROHIBITION OF INSTALLATIONS AND OPERATIONS

___06A General. No installation or premise shall be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation shall in any manner be construed as authorizing or permitting the creation of or maintenance of a nuisance or air pollution.

___06B Circumvention. No person shall install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total weight of emissions, conceals or dilutes an emission which would otherwise constitute a violation of any applicable air pollution control regulation.

___06C Refuse Burning Prohibited in Certain Installations. No person shall burn refuse in any plant, installation or equipment not specifically designed, constructed or modified for that purpose.

___06D *Prohibition of Certain New Fuel Burning Equipment.

1. No person shall contruct a new fuel burning equipment designed for use of residual fuel oil in which any individual furnace has a

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* Consent order for Mount St. Mary's College. See NonRegulatory Section Federal Register Publication date 3/18/80.

rated heat input of less than five million BTU per hour nor shall residual fuel oil be used at any time in any new fuel burning equipment having a rated heat input of less than thirteen million BTU per hour.

2. No person shall construct a new fuel burning equipment designed for use of a solid fuel in which any individual furnace has a rated heat input of less than 150 million BTU per hour nor shall a solid fuel be used at any time in any new fuel burning equipment having a rated heat input of less than 150 million BTU per hour.

3. No person shall construct fuel burning equipment fitted with a rotary cup burner or replace a burner with a rotary cup burner.

___06E Control of Sources of Fluoride Emissions.

1. No person shall cause, suffer, allow or permit the discharge into the atmosphere of fluorides from any installation in such combinations and in such amounts that any provision of the ambient air quality standards for fluorides set forth in 10.03.35.04E is controvened.

2. Surveillance

   a. Existing Installation Surveillance Program.

   A person responsible for an installation discharging fluorides shall conduct a continuing environmental surveillance program, in a manner approved by the Department, to determine whether ambient air quality standards for fluorides are violated.

   b. New Installation Surveillance Program.

   No "Permit to Construct" will be issued for any new potential source of fluoride emissions until the applicant has conducted a survey of background levels of fluoride in the environment in a manner and to an extent approved by the Department. Applicants for a "Permit to Operate" shall be subject to the requirements of ___06E2a.

   c. Reporting.

   All data collected by the environmental programs and surveys of fluorides, required by this subsection, shall be maintained and made available to the Department in a manner and on a schedule approved by the Department. Such data shall be available to the public.

   d. Modification of Surveillance Programs.

   Any modification to the environmental programs and surveys, required under this subsection, must be approved by the Department. Such modification may be initiated by the Department.

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(2.0) ___07 TRANSITION FROM PREVIOUS REGULATIONS

___07A Previous Plans for Compliance. All plans for compliance with regulations 43P03 as it became effective on January 28, 1969, which have been approved by the Secretary shall be evaluated by the Department. Any part of such plans which the Department determines relate to an installation which is subject to more restrictive emission control requirements under the terms of this amended regulation 10.30.37, as compared to the respective requirements of regulation 43P03 as it became effective on January 28, 1969, will be null and void. If a plan for compliance is declared null and void, an amended plan may be submitted to the Department.

___07B Previous Regulations Remain in Effect in Certain Cases. Provisions of regulation 43P03 as adopted on January 28, 1969 shall remain in effect with regard to installations, plants and matters dealt with in these amendments until the effective dates provided for by these amendments are applicable to the respective plants, installations or matters.

Other material?

Maryland State Department of Health and Mental Hygiene
301 West Preston Street
Baltimore, Maryland 21201

(As Amended Through December 17, 1974)

10.03.38 Regulations Governing the Control of Air Pollution in Area III†

Pursuant to the authority conferred upon the Secretary of Health and Mental Hygiene by Article 43, Section 697, Annotated Code of Maryland, 1957 Edition, and Supplement, the following regulations governing the control of air pollution in Area III are hereby established as requirements of the Department of Health and Mental Hygiene.

___01 CONTROL AND PROHIBITION OF OPEN FIRES

___01A General. No person shall cause, suffer, allow or permit an open fire except as provided in Sections ___01B, ___01C and ___01D.

___01B Control Officer May Authorize Certain Open Fires. Subject to review by the Department, the Control Officer may upon receipt of an application made on forms provided by the Department or local fire control agency, issue or approve a permit in writing allowing an open fire provided all of the following conditions are met:

1. The Control Officer is satisfied that there is no practical alternate method for the disposal of the material to be burned or to conduct the desired activity.

2. No hazardous condition or air pollution or nuisance will be created.

3. No burning will be done within 200 yards of one or more occupied buildings or a heavily travelled public roadway, provided that on and after July 1, 1973, this distance shall not be less than 500 yards.

4. Fire control laws or regulations of other governmental agencies will not be violated.

5. No materials which produce dense smoke when burned, including but not limited to tires and roofing material, will be burned.

6. Such other conditions as the Control Officer may impose to minimize creation of smoke, to prevent nuisances and air pollution, and to protect the health, safety, comfort, and property of any persons shall be satisfied.

7. The material to be burned shall have originated on the premises on which it is to be burned.

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†Baltimore Metropolitan Area comprising Baltimore City and Anne Arundel, Baltimore, Carroll, Harford and Howard Counties.

8. Exceptions. Methods of disposal by burning acceptable to the Department may be approved for use when distance limitations cannot be met.

9. A permit may be granted for fires set in the course of agricultural operations in growing crops or raising fowl or animals or in accepted forestry practice, when distance limitations cannot be met. In no case shall this provision be construed as allowing the burning of ordinary household or barnyard trash in areas where provision is made for public collection of refuse.

___01C Public Officers May Authorize Certain Fires. Public officers, in the performance of their official duties, may set an open fire or give permission for an open fire, with concurrence of the Control Officer, provided all reasonable means are employed to minimize smoke and if the fire is necessary for one or more of the following reasons or purposes:

1. For prevention of a fire hazard that cannot be abated by other means.

2. For the instruction of public fire fighters or industrial employees under supervision of the appropriate fire control official.

3. For the protection of public health or safety when other means for disposing of hazardous materials are not available.

___01D Allowed Open Fires. Open fires otherwise in conformance with other governmental fire control ordinances and provided no nuisance or air pollution is created, are allowed without permission as follows:

1. In those areas where no provision is made for public collection of leaves, burning of leaves originating on the premises, by householders, is permitted provided that no nuisance is created and that:

   a. The fires are located no closer than 300 feet (91.4 meters) from any neighboring habitable dwelling or place where people work or congregate.

   b. The effective date of this provision is July 1, 1972.

2. In those areas where no provision is made for public collection of refuse, burning of ordinary household trash (I.I.A. Waste types 0 and 1 only) originating on the premises, excluding commercial establishments, by householders is permitted provided that:

   a. The fires are located no closer than 300 feet from any neighboring habitable dwelling or place where people work or congregate.

b. Materials are not burned which create dense smoke (emissions of an opacity or darkness greater than No. 2 on the Ringelmann Smoke Chart).

3. Cooking of food on other than commercial premises.

4. Recreational purposes, such as campfires.

5. Oil or gas fired salamanders or similar devices designed specifically for space heating or warming of outdoor workers, etc., provided no visible emissions are created.

___02 CONTROL AND PROHIBITION OF VISIBLE EMISSIONS

___02A* Visible Emissions. No person shall cause, suffer, allow or permit the discharge of emissions from any installation or building, other than water in an uncombined form, which are visible to human observers.

___02B Exceptions.

1. Subsection ___02A shall not apply to emissions during the building of a new fire, cleaning of fires, soot blowing, start-up, any process modification or adjustment, or occasional cleaning or control equipment, the shade or appearance or which is not darker in shade or appearance than that designated as No. 2 on the Ringelmann Smoke Chart or greater than 40% opacity for a period of no more than 6 consecutive minutes in any 60 minutes.

2. Any person who believes that meeting the requirements of subsection ___02A above is not practical in a particular instance may request an exception to the requirements of subsection ___02A. Such a request shall be submitted to the Department in writing and include evidence to show why compliance is not practical. Upon the receipt of a request for an exception, the Department shall schedule a public hearing to be held within 60 days. The applicant for the exception shall, at least 30 days prior to the hearing date, prominently advertise the hearing by notice in a newspaper of general circulation in the Subdivision in which the facility or source for which the exception is sought is located. The notice shall include the name of the facility or source and such additional information as the Department may require. Based upon the evidence presented at the hearing, the Secretary may grant an exception to subsection .02A for a period not to exceed five years under such other terms and conditions as are appropriate to reduce the impact of the exception.

3. Subsection ___02A shall not apply to emissions of the following:

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*Temporary variance for Baltimore Gas and Electric. Non regulatory see Federal Register Publication 4/7/80.
Secretarial order for Maryland Cup Corp.
See NonRegulatory Section Federal Register Publication 8/19/80.

a. From those incinerators that are to be phased out under provisions of subsection ___06C;

b. From the burning of wood in fireplaces on premises used for residential or recreational purposes;

c. From open fires (except salamanders) permitted under provisions of subsections ___01B, ___01C and ___01D of this regulation.

___02C Visible Emissions from Internal Combustion Engine Powered Equipment.

1. Definitions

For the purpose of this regulation:

a. "Internal Combustion Engine" hereinafter referred to as "engine", shall mean all engines except those used for propulsion of ships, or vehicles licensed to operate upon the public highways within the State, or engines employed solely for agricultural and recreational purposes unless it is an integral part of a stationary installation.

b. "Idle" shall mean the condition during which the engine is not performing useful net work to enable the piece of equipment to accomplish its designed purpose(s).

2. Emissions During Idle Mode

No person shall cause, suffer, allow or permit the discharge of emissions from any engine operating at idle greater than 10% opacity or darker in shade or appearance than that designated as No.1/2 on the Ringelmann Smoke Chart except for the allowable discharge of water in an uncombined form.

3. Emissions During Operating Mode

No person shall cause, suffer, allow or permit the discharge of emissions from any engine operating at other than idle conditions, greater than 40% opacity or darker in shade or appearance than that designated as No. 2 on the Ringelmann Smoke Chart.

4. Exceptions

a. Paragraph (2) above shall not apply for a period of two consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

b. Paragraph (2) above shall not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:

(1) Engines that are idled continuously when not in service: 30 minutes.

(2) All other engines: 15 minutes

c. Paragraphs (2) and (3) above shall not apply while maintenance repair or testing is being performed by qualified mechanics.

5. Effective Date

The provisions of this subsection ___02C shall become effective January 1, 1975.

___02D Visible Emissions from Ships.

No person or agent shall cause, suffer, allow or permit the discharge of emissions from any ship in excess of the following limits:

	OPERATING MODE	MAXIMUM OPACITY OR RINGELMANN CHART NO	ALLOWABLE TIME
(1)	Underway, at berth or at anchor	20% - 1	No limit
(2)	Soot blowing		
	a. Underway. Within one mile (1.6 kilometer) of any shore	--	No soot blowing allowed
	b. At Berth or Anchor.		
	(1) Within first or last 24 hours of arrival at or departure from any berth or anchor	--	No soot blowing allowed
	(2) Any other 24 hour period.	No limit	15 minutes for each boiler in operation provided that no nuisance is created.
(3)	Cleaning and adjusting of combustion equipment while at berth or anchor	40% - 2	Not to aggregate more than 4 minutes in any 60 minute period.
(4)	Start up of cold boiler or engine	No limit 60% - 3	5 consecutive minutes 10 consecutive minutes additional

	OPERATING MODE	MAXIMUM OPACITY OR RINGELMANN CHART NO	ALLOWABLE TIME
(5)	Anchoring, berthing, or other maneuvering requiring rapid changes in power	80% - 4	No limit
(6)	Upset/breakdown, emergency/casualty or Coast Guard	No limit	No limit. The Control Officer shall be notified as to the reason for the excessive emissions.
(7)	Docktrials of new or rebuilt boilers or engines	No limit	No limit provided no nuisance is created and the Control Officer has been notified before 3:00 PM the day before the docktrials are to be conducted.

___03 CONTROL AND PROHIBITION OF PARTICULATE MATTER EMISSIONS

___03A General Conditions.

1. Calculations. All calculations of particulate matter emissions shall be made in terms of grains per standard cubic foot (milligrams per standard cubic meter) of dry exhaust gas (gf/SCFD)(mg/dscm).

    a. Adjustment shall be made as if 50 percent excess air had been used in fuel burning equipment.

    b. Calculations made for incinerator emissions shall be adjusted to 12 percent carbon dioxide and calculated as if no auxiliary fuel has been used.

2. For the purposes of these regulations:

    a. "Existing installation" shall mean those erected prior to the effective date of these regulations. (Date will be noted by reference number on each specific regulation.)

    b. "New installations" shall mean those erected on or after the effective date of these regulations. (Date will be noted by reference number on each specific regulation.)

___03B Control of Particulate Matter from Fuel Burning Equipment.

1. Dust Collector Devices Required

    a. No person shall cause, suffer, allow or permit the combustion of residual oil in fuel burning equipment unless such equipment is fitted with a dust collector which is so designed that it can reasonably be expected to produce sufficient dust particle force, residence time and particle retention to satisfy the requirements of Table 1.

b.* No person shall cause, suffer, allow or permit the combustion of solid fuel in fuel burning equipment unless the equipment is fitted with a dust collector which is so designed that it can reasonably be expected to produce sufficient dust particle force residence time and particle retention meet the emission requirements of Table 1.

2. Residual Fuel Oil Burning Equipment. No person shall cause, suffer, allow or permit particulate matter caused by the combustion of residual fuel oil to be discharged into the atmosphere in excess of the amounts shown and in accordance with the effective dates set forth in Table 1.

3. Solid Fuel Burning Equipment. No person shall cause, suffer, allow or permit particulate matter caused by the combustion of solid fuel to be discharged into the atmosphere in excess of the amounts shown and in accordance with the effective dates set forth in Table 1.

4. Distillate Fuel Oil Burning Equipment. No person shall cause, suffer, allow or permit the burning of distillate oils in such a manner that discharges to the atmosphere exceed the amounts shown and in accordance with the effective dates set forth in Table 1.

5. No person shall cause, suffer, allow or permit the operation of a rotary cup burner on fuel oil burning equipment having a maximum furnace heat input specified in the following table after the corresponding dates indicated in the table:

Maximum Furnace Heat Input Million BTU (gigajoules) per hour	Effective Date
5.0 or less (5.3)	July 1, 1976
5.0 - 13.0 (5.3-13.7)	July 1, 1977

One year prior to the effective date, a schedule for replacement shall be submitted to the Department, specifying the location of and date of completion of replacement for each affected burner.

*Temporary Variance for Baltimore Gas and Electric
See Non Regulatory Federal Register Publication

___03C Particulate Matter from Incinerators. No person shall cause, suffer, allow or permit to be discharged into the outdoor atmosphere from any incinerator, particulate matter to exceed the following limitations:

(1) Pathological Incinerators 0.10 gr/SCFD (229 mg/dscm)
(2) All other incinerators 0.03 gr/SCFD (68.7 mg/dscm)

___03D Particulate Matter from Grain-Drying and Grain-Handling Installations.

(1) A person may not cause or permit the operation of any grain-drying installation unless all exhaust gases discharged pass through a 24 mesh screen or the installation is fitted with other equipment or incorporates design features that will accomplish equally effective results in reducing particulate matter discharge. Mesh means Tyler Standard Screen Scale or its equivalent.

(2) Exemptions.

(a) All grain-drying installations, except those in the City of Baltimore, in operation before January 1, 1975, are exempt from the provisions of §D(1), above, unless otherwise ordered by the Department after receipt of complaints which have been substantiated by Departmental investigation.

(b) Grain-drying equipment with a total operating capacity of 1000 bushels per hour or less (manufacturer's rated capacity at 5 percent moisture removal), located on a farm and more than 200 feet (60.9 meters) from a habitable dwelling is exempt from the provisions of §D(1), above.

(3) A person may not cause or permit the operation of any grain-handling installation not located on a farm without taking reasonable precautions to prevent particulate matter from becoming airborne. These reasonable precautions shall include:

(a) Proper housekeeping and cleaning throughout the entire facility, including but not limited to, the prompt removal of spilled and fugitive "beeswings" and grain-dust accumulation by a technique which prevents this material from escaping into the atmosphere.

(b) Covering, at all times when in motion, open-bodied vehicles transporting dusty material except for agricultural products in their natural state.

(c) Proper maintenance of all aspiration systems and dust collection devices.

(d) The use of good engineering design and operational practices that will minimize emissions from grain receiving, conveying, processing, mixing, and load-out facilities. For those operations listed below, located within the City of Baltimore, good engineering design and operational practices shall include the following:

(i) For grain exporting terminals only, use of aspiration systems and fabric filter dust collection devices on cleaning, separating, handling, conveying, and internal transferring equipment unless specifically exempted by the Department due to the nature, size, throughput, or location of the equipment.

(ii) Use of aspiration systems and fabric filter dust collection devices on all truck and railroad car unloading (dump pit) and load-out areas. All unloading (dump pit) and load-out areas shall be enclosed in sheds or buildings and utilize means or devices (including quick-closing doors, air curtains, or wind deflectors) to minimize the effect of wind currents and drafts. Any alternative method, technique, or system, which is equally effective in reducing emissions may be used if approved by the Department.

(iii) Use of a system for the loading of grain onto a ship or barge which shall include the use of telescoping loading spouts and automatic level sensing devices. Each spout shall include an aspiration system exhausting to a fabric filter dust-collection device. While loading grain, each spout shall be kept at a height no greater than 2 feet (0.6 meter) above the level of the grain surface or at the full extension of the spout except during topping-off operations or when trimming machines are being used. The Department may approve the use of alternative control devices, methods, techniques, work practices, or process changes, provided that emissions during loading are not greater than 20% opacity.

(4) A person may not cause or permit to be discharged into the outdoor atmosphere from any emission control equipment installed in accordance with the requirements of §D(3), particulate matter in excess of 0.03 gr/SCFD (68.7 mg/dscm).

(5) Compliance Schedule.

(a) A person who elects to achieve compliance with §D(3)(d)(iii) through the use of telescoping loading spouts, level sensing devices, aspiration systems and fabric filter dust collection devices, shall adhere to the increments of progress contained in the following schedule.

(i) By June 1, 1981: submission of a permit to construct application for the installations necessary to achieve compliance.

(ii) By January 1, 1982: beginning of construction of those installations necessary to achieve compliance.

(iii) By December 1, 1982, completion of construction and beginning of operations of those installations necessary to achieve compliance.

(b) A person who elects to achieve compliance with §D(3)(d)(iii) through use of approved alternative techniques shall adhere to the increments of progress contained in the following schedule.

(i) By July 1, 1979, submission of a detailed compliance program together with all required permit to construct applications for the installations necessary to achieve compliance.

(ii) As expeditiously as practicable, but not later than July 1, 1980, complete the approved alternative techniques as described in the compliance program.

___03E Particulate Matter from Other Installations

A person shall not cause or permit to be discharged into the outdoor atmosphere from any other installation, particulate matter in excess of 0.03 gr/SCFD (68.7 mg/dscm).

(51.3) ___03F Particulate Matter from Materials Handling and Construction and Other Acts.

1. A person may not cause or permit any material to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. These reasonable precautions shall include, but not be limited to the following, when appropriate as determined by the Control Officer.

   a. Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;

   b. Application of asphalt, oil, water or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which create airborne dusts;

   c. Installation and use of hoods, fans and dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operations;

   d. Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution. Alternate means may be employed to achieve the same results as would covering;

   e. The paving of roadways and their maintenance in a clean condition.

f. The prompt removal from paved streets of earth or other material which has been transported thereto by trucks or earth moving equipment or erosion by water.

2. No person shall cause, suffer, allow or permit visible emissions beyond the lot line of the property on which the emissions originate.

___03H Particulate Matter from Unconfined Sources.

(1) A person may not cause or permit emissions from an unconfined source without taking reasonable precautions to prevent particulate matter from becoming airborne. These reasonable precautions shall include, when appropriate as determined by the Department, the installation and use of hoods, fans, and dust collectors to enclose, capture, and vent emissions. In making this determination, the Department shall consider technological feasibility, practicality, economic impact and the environmental consequences of such decision.

(2) Exemptions. The following are exempt from the provisions of §H(1):

(a) Iron and Steel Production Installations which are subject to COMAR 10.18.04.03G.

(b) Grain drying and grain handling installations.

___04 CONTROL AND PROHIBITION OF GAS AND VAPOR EMISSIONS

___04A General.

1. Odors. No person shall cause, suffer, allow or permit the discharge into the atmosphere of gases, vapors or odors beyond the property line in such a manner that a nuisance or air pollution is created.

2. General Conditions. All calculations of emissions governed by ___04C shall be adjusted to standard condition.

___04B Sulfur Oxides From the Burning of Fuel. No person shall burn, sell or make available for sale any fuel unless the following conditions are met:

1.* On and after the effective date of this regulation, (1) all fuels shall contain 1% or less sulfur by weight.

2. On and after July 1, 1972, distillate fuel oils shall contain 0.3% or less sulfur by weight.

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*Temporary variance for Baltimore Gas and Electric. See non regulatory Federal Register Publication 4/7/80.

Process gases used as fuel in existing installations shall contain 0.3% or less sulfur by weight. The owner or operator of any premise subject to the requirements of this paragraph shall within 30 days of this effective date of this regulation submit to the Department a schedule for compliance with this regulation.

___04C Sulfur Compounds From Other Than Fuel Burning Installations.

1. No person shall cause, suffer, allow or permit the discharge into the atmosphere from installations other than fuel burning installations of gases containing more than 500 ppm of sulfur dioxide. Such installations constructed prior to February 21, 1971 shall be limited to not more than 2,000 ppm sulfur dioxide.

2. No person shall cause, suffer, allow or permit the discharge into the atmosphere from installations other than fuel burning installations of gases containing sulfuric acid, sulfur trioxide, or any combination thereof greater than 35 milligrams per cubic meter reported as sulfuric acid. Such installations constructed prior to February 21, 1971 shall be limited to not more than 70 milligrams per cubic meter of sulfuric acid, sulfur trioxide or any combination thereof reported as sulfuric acid.

3. No person shall cause, suffer, allow or permit the discharge into the atmosphere of process gas containing hydrogen sulfide from any petroleum refinery unless the gas is burned in any afterburner at 1300°F (704°C) for a period of 0.3 seconds or more or in an equivalent device approved by the Department.

4. No person shall cause, suffer, allow or permit the discharge of petroleum refinery process gas into an afterburner or boiler or gas collection system connected to an afterburner or boiler if the concentration of hydrogen sulfide in the process gas is greater than 0.1 gr/SCFD (229 mg/dscm).

___04D Exceptions.

1. Fuels containing sulfur in excess of the amounts specified in ___04B may be burned, sold, or made available for sale provided control equipment to desulfurize stack gases has been installed or other methods or devices are used such that the discharge of sulfur dioxide to the atmosphere does not exceed 0.5 pounds per million BTU of heat input to the associated installation in which such fuel is burned.

2. The Secretary may authorize the operation of a scavenger or recovery plant to reclaim sulfur compounds which would otherwise be emitted into the air provided the operation of such scavenger or recovery plan would reduce total emission of sulfur compounds at least 95% with said plant in operation compared to emissions when the aforementioned plant is not operating. Such authorization may result in emissions of sulfur compounds whose concentrations exceed those permitted by subsections 1 and 2 of ___04C. This subsection shall not apply to sulfuic acid manufacturing operations.

3. Fuel Burning Installations on ships and the sale of Fuel for such installations shall be exempt from the provisions of this section pertaining to the burning of fuel of specified sulfur content.

4. Paragraphs .04C(3) and .04C(4) shall not apply to the combustion of process upset gas in a flare, or the combustion in a flare of process gas or fuel gas released to the flare as a result of relief valve leakage.

___04E Request for Analysis. Any person offering to sell or deliver fuel or any person responsible for an installation in which fuel is burned shall, upon request, submit to the Department or the Control Officer such analyses of the fuel or process gas as may be required to determine compliance with this section.

___04F Control of Odors from the Reduction of Offal.

1. No person shall cause, suffer, allow or permit the use of any installation primarily engaged in the reduction of offal unless all gases, vapors and gas-entrained matter from said installations are:

   a. First cooled to a temperature of not greater than 160° Fahrenheit and then

   b. The non-condensible fraction is incinerated at a temperature of not less than 1400° Fahrenheit (760°C) for a period of not less than 0.4 second.

   c. Alternate methods may be used if determined by the Department to be equally or more effective for the purpose of controlling air pollution.

2. Any person processing or incinerating gases, vapors or gas-entrained matter as required by subsection ___04F1 shall, when ordered by the Department, install, operate and maintain in good working order and calibration, continuous recording devices for indicating temperature, or pressure or other operating conditions. Such devices shall be approved by the Department and all data collected shall, when ordered by the Department, be made available to the Department or the Control Officer for inspection or copying. Such data shall be kept on file by responsible persons for at least 60 days.

3. No person shall cause, suffer, allow or permit any offal or veg- to be handled, transported or stored or to undertake the preparation of any offal without taking reasonable precautions, when approved by the Department, shall include but not be limited to the following:

   a. Storage of all offal prior to or in the process of preparation, in properly enclosed and vented equipment or areas, together with the use of effective devices and/or methods to prevent the discharge of odors or odor bearing gases.

   b. Use of covered vehicles or containers of watertight construction for the handling and transporting of offal.

   c. Use of hoods and fans to enclose and vent the storage, handling, preparation and conveying of any odorous materials together with effective devices and/or methods to prevent emissions of odors or odor bearing gases.

4. Whenever the emissions from an installation primarily engaged in the reduction of offal create a nuisance or air pollution, beyond the property line, the Department may require that the building in which such installation is located be vented so that all emissions are treated by incineration or by other methods if determined by the Department to be equally or more effective for the purpose of controlling emissions.

5. The requirements of this subsection ___04F shall not apply to any installation engaged exclusively in the processing of food for human consumption.

___04G Nitrogen Oxides from Fuel Burning Equipment.

1. New Fuel Burning Equipment.(4) No person shall cause, suffer, allow or permit the discharge of nitrogen oxides into the atmosphere, from any new fuel burning equipment having a heat input rating of 250 million British Thermal Units (BTU)(264 gigajoules) per hour or more, in excess of the following rates:

   a. 0.20 pounds (86 gm) per million BTU (gigajoules) heat input, maximum two hour average, expressed as NO_2 when gaseous fuel is burned.

   b. 0.30 pounds (129 gm) per million BTU (gigajoules) heat input, maximum two hour average, expressed as NO_2 when liquid fuel is burned.

c. 0.50 pounds (215 gm) per million BTU (gigajoules) heat input, maximum two hour average, expressed as NO_2 when solid fuel is burned.

3. Fuel burning installation on ships shall be exempt from provision of this subsection.

___04H Nitrogen Oxides from Nitric Acid Plants.

No person shall cause, suffer, allow or permit the discharge into the atmosphere from any nitric acid plant, nitrogen oxides in excess of 3.0 pounds per ton (1.50 kilograms per 1000 kilograms) of acid (100 percent basis) produced.

___04I Carbon Monoxide From Other Than Fuel Burning Equipment

1. No person shall cause, suffer, allow or permit the discharge of carbon monoxide gas generated during the operation of a grey iron cupola, blast furnace, or basic oxygen steel furnace into the atmosphere unless the gas is burned with excess oxygen at 1300^{o} (704^{o}C) or more for 0.3 seconds or longer in a direct flame afterburner or Department approved equivalent control method which reduced the concentration of carbon monoxide in the effluent to 1% by volume or less. The control method shall be equipped with an indicating pyrometer readily visible to the operator.

2. No person shall cause, suffer, allow or permit the discharge of a carbon monoxide waste gas stream from any catalyst regeneration of a petroleum cracking system, petroleum fluid coker, or other petroleum process into the atmosphere, unless the waste gas stream is burned with excess oxygen at 1300^{o} (704^{o}C) or more for 0.3 seconds or longer in a direct flame afterburner or Department approved equivalent control method which reduces the concentration of carbon monoxide in the effluent to 1% by volume or less. The control method shall be equipped with an indicating pyrometer positioned in the working area readily visible to the operator.

3. No person shall cause, suffer, allow or permit the discharge of carbon monoxide gas from any installation which, without emission control measures, would discharge carbon monoxide gas at a rate exceeding 500 pounds (227 kilograms) per day and at a concentration exceeding 12% by volume, unless the carbon monoxide gas is burned with excess oxygen at 1300^{o}F (704^{o}C) or more for 0.3 seconds or longer in a direct flame afterburner or Department approved equivalent control method which reduces the concentration of carbon monoxide in the effluent to 1% by volume or less. The control method shall be equipped with an indicating pyrometer readily visible to the operator.

4. Exceptions: Paragraph 3 shall not apply to:

   a. Coking process equipment used directly in the manufacture of metallurgical coke by the pyrolysis of coal in the absence of air.

   b. Process equipment designated in paragraphs 1 and 2 above.

___04J Hydrocarbons From Other Than Fuel Burning Installations

1. Definitions for purposes of these regulations:

   a. "Architectural Coating" shall mean any coating used for residential, commercial or industrial buildings and their appurtenances.

   b. "Motor Vehicle Fuel" shall mean motor vehicle fuel as defined in Article 56, Section 135 (b) of the Annotated Code of Maryland.

   c. "Organic Material" shall mean chemical compounds of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbonates, metallic carbides and ammonium carbonates.

   d. "Organic Solvent" shall mean any organic material which is liquid at standard conditions and which is used as a dissolver, viscosity reducer or cleaning agent.

   e. "Photochemically Reactive Organic Solvent" shall mean any organic solvent with an aggregate of more than 20% of its total volume composed of the chemical compounds classified below or which exceeds any of the following individual percentage composition limitations referred to the total volume of solvent:

      (1) A combination of hydrocarbons, alcohols, aldehydes, esters or ketones any of which has an olefinic or cylo-olefinic type of unsaturation: 5%.

      (2) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8%;

      (3) A combination of ethylbenzene, ketones having branched hydrocarbon structures or toluene: 20%.

   Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the above groups or organic compounds, it shall be considered as a member of the most reactive chemical group, that is, that group having the least allowable percent of the total volume of solvents. For architectural coatings only, the volume of water contained in the solvent may be used to compute the total volume of the solvent in determining percentages of photochemically reactive organic solvents.

f. "Reid Vapor Pressure" shall mean the absolute pressure in pounds per square inch determined at 100° F. (38°C) and v/l = 4 (ratio of vapor volume to liquid volume, as defined in ASTM designation D 323-58) by using apparatus and procedures as standardized under the auspices of the American Society for Testing and Materials.

g. "True Vapor Pressure" shall mean the absolute pressure in pounds per square inch determined at storage conditions. Storage temperature shall be taken as the average monthly temperature. If the storage is subject to solar and ambient heat gain only, the temperature shall be taken as the average monthly temperature to a maximum average of 77°F (25°C) (average storage temperature for May through September). True vapor pressure shall be determined by measurement at the storage conditions or by use of a nomograph, published by the Coordinating Research Council and included with these regulations as Figure 1, relating true vapor pressure to Reid vapor pressure and storage temperature.

h. "Vapor Balance Line" shall mean any connection closed to the atmosphere between the vapor space of two storage containers that will allow the vapors to be displaced as the liquid is transferred from one tank to another.

i. "Photochemically Reactive Organic Materials" shall include any of the following:

(1) Hydrocarbons, alcohols, aldehydes, esters or ketones any of which has an olefinic or cyclo-olefinic type unsaturation,

(2) Aromatic compounds with 7 or more carbon atoms,

(3) Ketones having branched hydrocarbon structure,

(4) Motor vehicle fuel with a true vapor pressure greater than 1.5 psia at 78°F,

(5) Organic solvents which have been in direct contact with flame in the presence of oxygen,

(6) Compounds emitted from a process in which organic solvents are baked, heat cured or heat polymerized in the presence of oxygen.

2. Organic Material.

a. After January 1, 1973, no person shall cause, suffer, allow or permit organic material having a true vapor pressure in the range of 1.5 to 11 psi (10.3 to 75.8 KN/m^2) inclusive to be placed, stored or held in any existing stationary tank reservoir with a capacity of greater than 65,000 gallons (246 cubic meters), or in any new stationary tank reservoir with a capacity of greater than 40,000 gallons (151 cubic meters) unless the tank is equipped with one or more of the following organic material vapor control devices, properly installed, well-maintained and in operating condition.

(1) A floating roof resting on the surface of the liquid contents equipped with a closure seal, or seals, to close the space between the roof edge and tank wall, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(2) A pressure tank system maintaining a pressure at all times so as to prevent organic material loss to the atmosphere, or

(3) A vapor recovery system capable of collecting the organic materials emitted from the tank and disposing of these emissions so as to prevent their emission to the atmosphere, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(4) Other equipment equal or greater in efficiency to those devices listed above, and approved by the Department.

b. After January 1, 1973, no person shall cause, suffer, allow or permit organic materials having a true vapor pressure greater than 11 psi (75.8 KN/m^2) to be placed, stored or held in any existing stationary tank reservoir with a capacity of greater than 65,000 gallons (246 cubic meters), or in any new stationary tank reservoir with a capacity greater than 40,000 gallons (151 cubic meters) unless equipped with one of the following organic material vapor control devices properly installed, well-maintained and in operating condition:

(1) A pressure tank system maintaining a pressure at all times so as to prevent organic material loss to the atmosphere, or

(2) A vapor recovery system capable of collecting the organic materials emitted from the tank and disposing of these emissions so as to prevent their emission to the atmosphere, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(3) Other equipment equal or greater in efficiency to those devices listed above, and approved by the Department.

c. After January 1, 1974, no person shall cause, suffer, allow or permit organic material with a true vapor pressure of 1.5 psi (10.3 KN/m^2) or greater to be loaded into any tank truck, tank trailer or other contrivance from any existing loading system on any premise at which the total daily throughput (1/300 of actual annual throughput) exceeds 40,000 gallons (151 cubic meters) or from any new loading system on any premise at which the total daily throughput exceeds 20,000 gallons (75.7 cubic meters) unless the loading system is equipped with a vapor recovery system that is properly installed, well-maintained and in operation and has been approved by the Department. Additions to, or modifications or alterations of existing loading systems which increase the total daily throughput at a premise to more than 40,000 gallons (151 cubic meters) shall require such a vapor recovery system for the entire loading system. All loading connections on the vapor lines shall be equipped with fittings which shall be vapor tight and will automatically and immediately close upon disconnections so as to prevent release of organic material from these fittings. The provisions of this section shall not apply to the loading of motor vehicle fuel tanks.

d. After January 1, 1974, no person shall cause, suffer, allow or permit any motor vehicle fuel with a true vapor pressure of 1.5 psi (10.3 KN/m^2) or greater to be loaded from a tank truck or trailer or other contrivance into a stationary tank having a capacity greater than 5,000 gallons (18.9 cubic meters), but less than 40,000 gallons (151 cubic meters) and installed after January 1, 1973, unless the loading system is equipped with a vapor balance line or equally effective vapor discharge control system approved by the Department. Components of the vapor balance line consisting of a vapor space connection on the tank and a compatible vapor return line on the truck shall be installed by the following dates:

Tank connection	January 1, 1973
Truck vapor return line	January 1, 1974

e. Motor Vehicle Fuel.

(1) A person shall not cause or permit any motor vehicle fuel with a true vapor pressure of 1.5 psi (10.3 KN/m^2) or greater to be loaded into an existing stationary tank having a capacity of less than 40,000 gallons (151 cubic meters) at a premise where the monthly throughput (1/12 of the sum total throughput for the preceeding twelve months) exceeds 50,000 gallons per month, unless the loading system is equipped with a vapor balance line capable of a minimum of 90% control of the emission or equally effective vapor discharge control system capable of a minimum of 90 percent control of the emission approved by the Department.

(2) After May 31, 1977 no person shall cause, suffer, allow or permit any motor vehicle fuel with a true vapor pressure of 1.5 psi (10.3 KN/m^2) or greater to be loaded into an existing stationary tank having a capacity of less than 40,000 gallons (151 cubic meters) at a premise where the monthly average throughput exceeds 20,000 gallons (76 cubic meters) per month unless the loading system is equipped with a vapor balance line capable of a minimum of 90 percent control of the emission or equally effective vapor discharge control system approved by the Department.

(3) No person shall cause, suffer, allow or permit any motor vehicle fuel tank to be filled with motor vehicle fuel with a vapor pressure of 1.5 psi (10.3 KN/m^2) or greater from a premise where stationary tanks are equipped with vapor balance lines unless a vapor collecting system, approved by the Department, is installed and in good operating condition. This part shall become effective 18 months after the Department has approved two or more such vapor collection systems.

f. Organic Solvents.

1. No person shall cause, suffer, allow or permit the discharge of any emissions of organic materials in any one day from any existing installation or building (8) in which any organic solvent or solvent containing material is in direct contact with a flame or is baked, heat-cured or heat polymerized in the presence of oxygen unless this discharge does not exceed 200 pounds per day or unless the discharge is reduced by at least 85 percent overall. The corresponding limit for new installations (9) of this type subject to regulation under this paragraph shall be 15 pounds per day or an 85 percent deduction overall.

2. No person shall cause, suffer, allow or permit the discharge of any emissions of photochemically reactive solvent in any one day from any existing installation or building (10) not specifically defined in paragraph (a) above, used for employing, evaporating, drying, processing or manufacturing any such solvent or material containing such solvent unless this discharge does not exceed 200 pounds per day or unless the discharge is reduced by at least 85 percent overall. The corresponding limit for new installations (11) of the type subject to regulation under this paragraph shall be 40 pounds per day or an 85 percent reduction overall.

   Exceptions to this provision shall include the operation of tar heaters, coke ovens and air ventilating systems evacuating spaces in which the solvent concentration is lower than the TLV for human exposure as defined by the American Conference of Governmental Industrial Hygienists.

3. A person incinerating, absorbing or otherwise processing organic materials pursuant to this rule shall provide, properly install and maintain in calibration, in good working order and in operation, devices as specified in the authority to construct or the permit to operate, or as specified by the Department for indicating temperatures, pressures, rates of flow or other

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operating conditions necessary to determine the degree and effectiveness of air pollution control.

5. Drycleaning Solvent

   (1) A person shall not cause or permit the commercial use of any photochemically reactive solvent for the service of drycleaning of clothing or household items.

   (2) The owner or operator of any premise subject to the requirements of this subparagraph .04J(3)d shall submit to the Department the following information by January 2, 1974:

   Location of premise
   Source of supply and identifying name, number or purchase specification for all drycleaning solvents used.

6. The provisions of this paragraph shall not apply to:

   (1) The use of any material, in any installation or building described in subparagraphs (3)a, (3)b, or (3)c above, if:

      (a) The volatile content of such material consists only of water and organic solvents, and

      (b) The organic solvents comprise not more than 20 percent by volume of said volatile content, and

      (c) The volatile content is not photochemically reactive as defined in subparagraph .04J(1)e, and

      (d) The organic solvent or any material containing organic solvent does not come into contact with flame.

   (2) The use of any material, in any installation or building described in subparagraphs (3)a, (3)b or (3)c above, if :

      (a) The organic solvent content of such material does not exceed 20 percent by volume of said material, and

      (b) The volatile content is not photochemically reactive as defined in subparagraph .04J(1)e, and

      (c) More than 50 percent by volume of such volatile material is evaporated before entering a chamber heated above ambient application temperature and

      (d) The organic solvent or any material containing organic solvent does not come into contact with flame.

(3) The use of any material, in any installation or building described in subparagraphs (3)a, (3)b, or (3)c above, if:

(a) The organic solvent content of such material does not exceed 5 percent by volume of said material, and

(b) The volatile content is not photochemically reactive as defined in subparagraph .04J(1)e, and

(c) The organic solvent or any material containing organic solvent does not come into contact with flame.

g. Other Photochemically Reactive Organic Materials.

A person shall not cause or permit the discharge of any emissions of photochemically reactive organic materials, not controlled under paragraphs e. and f. of this section, from any installation built after January 1, 1977 in excess of 15 lbs. (6.80 kilograms) per day unless the emission is reduced by 85% overall.

The corresponding limitation for installations constructed before January 1, 1977 is 200 lbs. (90.7 kilograms) per day or 85% overall reduction.

3. Architectural Coating

a. Provisions of this section shall become effective on July 1, 1973. After this date, persons responsible for formulation and/or distribution of architectural coatings shall, upon request by the Department, submit a chemical analysis of solvents employed. The analysis shall contain sufficient detail to establish compliance with the provisions of these regulations. Such information shall be entitled to protection as trade secrets and the Department shall keep such information confidential.

4. Solvent Disposal

After July 1, 1973, no person shall cause, suffer, allow or permit the disposal of five gallons (18.9 liters) or more per day or 55 gallons (208 liters) or more per month of any photochemically reactive solvent by any means which will result in evaporation of such solvent into the atmosphere.

5. Organic Material Water Separators

After January 1, 1974, no person shall cause, suffer, allow or permit the discharge of organic material to the atmosphere from single or multiple compartment organic material water separators that receive effluent water containing 200 gallons (757 liters) of organic material or more per day having a true vapor pressure of 1.5 psi (10 KN/m^2) or greater unless one or more of the following vapor control devices is properly installed, in good working order and in operation:

a. A floating roof resting on the surface of the liquid contents equipped with a closure seal, or seals, to close the space between the roof edge and tank well, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

b. A vapor recovery system capable of collecting the organic materials emitted from the tank and disposing of these emissions so as to prevent their emission to the atmosphere, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

c. Other equally effective devices as approved by the Department.

___04K Use of Waste Oils as Fuel

1. No person shall burn, sell, or make available for use as fuel in any installation any waste oil including but not limited to, used petroleum products, crank case draining, cutting oils, vegetable oils, or combustible fluids salvaged from any automotive or industrial use without obtaining the prior approval of the Department.

2. Any person desiring to use waste oil as a fuel in any installation shall, prior to the use thereof, submit to the Department such information and analysis as the Department may require.

3. After consideration of the information submitted by a prospective user of waste oil, the Department shall enter an Order approving or disallowing the use of such fuel or approving its use with such conditions as the Department finds necessary. In the event the Department shall disapprove or condition the use of such fuel a person aggrieved by the Order may request a hearing within 10 days after receipt of the Order. Where a hearing is requested, it shall be held pursuant to Article 43, Section 698(c)(d) of the Annotated Code of Maryland.

___05 RESERVED

___06 CONTROL AND PROHIBITION OF INSTALLATIONS AND OPERATIONS

___06A General. No installation or premise shall be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to control of emissions shall in any manner be constructed as authorizing or permitting the creation of or maintenance of a nuisance or air pollution.

___06B Circumvention. No person shall install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total weight of emissions, conceals or dilutes an emission which would otherwise constitute a violation of any applicable air pollution control regulation.

___06C Prohibition of Certain Incinerators.

1. No person shall cause, suffer, allow or permit the construction of any incinerator on or after the effective date (12) of this subsection ___06C1 if the use of such incinerator will be prohibited under provisions of subsection ___06C2.

2. No person shall cause, suffer, allow or permit the use of any flue-fed or chute-fed single chamber incinerator on or after July 1, 1972. No person shall cause, suffer, allow or permit the use of any other incinerator on or after July 1, 1973 except as provided below:

   a. Incinerators that have a burning capacity greater than five tons (4540 kilograms) per hour and which are used to burn at least 20 tons (18100 kilograms) of refuse per day.

   b. Crematory and pathological incinerators that are used to burn type 4 wastes (according to I.I.A. Standards) or medical wastes.

   c. Specific by-product incinerators that are used to burn type 5 or 6 wastes (according to I.I.A. Standards) and which have a burning rate of at least one ton (907 kilograms) per hour and are used to burn at least two tons (1810 kilograms) per day of waste.

   d. Pathological incinerators that are used to burn medical wastes, provided that the units are approved for that purpose by the Department.

3. Householders are permitted to burn ordinary household trash (I.I.A. waste type 0 and 1 only) originating on the premises, in inciner-

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ators, in those areas where public collection of refuse is not provided.

4. Any incinerator, the use of which is prohibited under provisions of this section, shall be made inoperable in a manner approved by the Control Officer or the Department.

___06D Refuse Burning Prohibited in Certain Installations. No person shall burn refuse in any installation or equipment not specifically designed, constructed or modified for that purpose.

___06E Prohibition of Certain New Fuel Burning Equipment.

1. No person shall construct new fuel burning equipment designed for use of residual fuel oil in which any individual furnace has a heat input rate of less than thirteen million BTU (13.7 gigajoules) per hour nor shall residual fuel oil be used at any time in any furnace having a heat input rate of less than thirteen million BTU (13.7 gigajoules) per hour.

2. No person shall construct new fuel burning equipment designed for use of solid fuels in which any individual furnace has a heat input rate of less than 250 million BTU (264 gigajoules) per hour nor shall solid fuels be used at any time in any furnace having a heat input rate of less than 250 million BTU (264 gigajoules) per hour.

3. No person shall construct fuel burning equipment designed to burn fuel oil with a rotary cup burner or replace a burner on fuel burning equipment with a rotary cup burner.

4. Exemptions. New fuel burning installations on ships shall be exempted from paragraph (1) of this subsection.

___06F Control of Sources of Fluoride Emissions.

1. No person shall cause, suffer, allow or permit the discharge into the atmosphere of fluorides from any installation in such combinations and in such amounts that any provision of the ambient air quality standards for fluorides set forth in 10.03.35.04E is contravened.

10.03.35.04E is contravened.

2. Surveillance

   a. Existing Installation Surveillance Program

   A person responsible for an installation discharging fluorides shall conduct a continuing environmental surveillance program in a manner approved by the Department, to determine whether ambient air quality standards for fluorides are violated.

b. New Installation Surveillance Program

No "Permit to Construct" will be issued for any new potential source of fluoride emissions until the applicant has conducted a survey of background levels of fluoride in the environment in a manner and to an extent approved by the Department. Applicants for a "Permit to Operate" shall be subject to the requirements of ___06F2a.

c. Reporting

All data collected by the environmental programs and surveys of fluorides, required by this subsection, shall be maintained and made available to the Department in a manner and on a schedule approved by the Department. Such data shall be available to the public.

d. Modification of Surveillance Programs

Any modification to the environmental programs and surveys required under this subsection, must be approved by the Department. Such modification may be initiated by the Department.

___06G Control and Prohibition of Sources of Photochemically Reactive Organic Materials

1. No person shall construct any source, or group of sources of the same Standard Industrial Classification Major Group, which after complying with all other applicable provisions of these regulations, will discharge to the atmosphere more than 550 lbs. (249 kilograms) per day of photochemically reactive organic materials.

2. No person shall cause, suffer, allow or permit the emission of photochemically reactive organic materials in any calender month from any existing source or group of sources subject to the provisions of subsection .04J to exceed 1/12 of the total emission of photochemically reactive organic materials for the calendar year 1973, provided that such total emission was in excess of 100 tons (90,700 kilograms).

3. Specifically exempted from the requirements of paragraph (1) of this subsection is new construction associated with the relocation or complete replacement of existing sources subject to the provisions of subsection ___.04J, provided that the emissions from such construction will not exceed those allowed the existing source under paragraph (2) of this subsection.

4. No person shall construct pumping or compressing equipment handling a photochemically reactive organic material unless the equipment is fitted with mechanical seals, or other sealing devices of equal or greater efficiency approved by the Department.

5. No person shall cause, suffer, allow or permit the use of any safety pressure relief valve, on equipment handling a photochemically reactive organic material at a pressure of 15 lbs. (10.3 kiloneutons per square meter) per square inch absolute or more unless the safety pressure relief valve is vented to a vapor recovery or incineration system, protected by a rupture disc, or is maintained by an inspection system approved by the Department.

___06I Definitions.

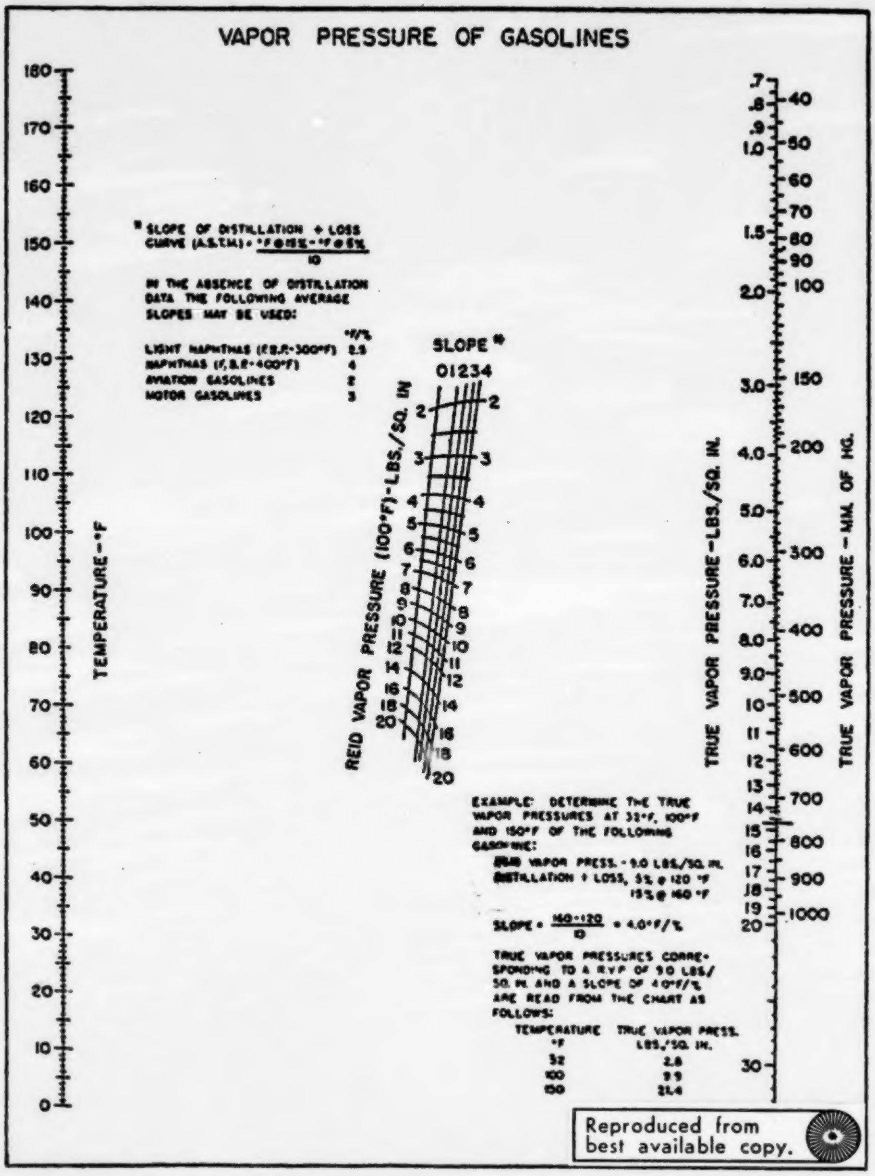
(1) For the purpose of Sections G and H the phrase "lowest achievable emission rate" applied to any source means that rate of emissions which reflects:

(a) The most stringent emission limitation which is contained in the implementation plan of any state (approved and adopted pursuant to section 110 of the Federal Clean Air Act) for this source or similar category of sources, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable; or

(b) The most stringent emission limitation which is achieved in practice by such source or similar category of source, whichever is more stringent. In no event shall the application of this term permit a proposed new or modified source to emit any pollutant in excess of the amount allowable under applicable new source standards of performance (Section 111 of the Federal Clean Air Act).

(2) For the purpose of Sections G and H, the phrase "reasonable further progress" means that emission reduction which, on an annual basis, is determined by the Department to be consistent with those total emission reductions required to meet the National Ambient Air Quality Standard for that pollutant as prescribed by the Clean Air Act Amendments of 1977 (42 U.S.C., Sections 7401-7642).

Figure 1



* SLOPE OF DISTILLATION + LOSS CURVE (A.S.T.M.) = $\frac{°F @ 15\% - °F @ 5\%}{10}$

IN THE ABSENCE OF DISTILLATION DATA THE FOLLOWING AVERAGE SLOPES MAY BE USED:

	°F/%
LIGHT NAPHTHAS (E.B.P.=300°F)	2.5
NAPHTHAS (E.B.P.=400°F)	4
AVIATION GASOLINES	2
MOTOR GASOLINES	3

EXAMPLE: DETERMINE THE TRUE VAPOR PRESSURES AT 32°F, 100°F AND 150°F OF THE FOLLOWING GASOLINE:

REID VAPOR PRESS. = 9.0 LBS/SQ. IN.
DISTILLATION + LOSS, 5% @ 120 °F
15% @ 160 °F

SLOPE = $\frac{160-120}{10}$ = 4.0°F/%

TRUE VAPOR PRESSURES CORRESPONDING TO A R.V.P. OF 9.0 LBS/SQ. IN. AND A SLOPE OF 4.0°F/% ARE READ FROM THE CHART AS FOLLOWS:

TEMPERATURE °F	TRUE VAPOR PRESS. LBS./SQ. IN.
32	2.8
100	9.9
150	21.4

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Reference: Coordinating Research Countil (CRC) Handbook, PP. 244-254 (1946)

Emission Standards And Dust Collector Performance Standards For Fuel Burning Equipment

Equipment Description	Maximum rated heat input in million BTU (gigajoules) per hour per furnace	Effective date of Standard	Max. Allowable Emissions of part. matter-gr/SCFD (mg/dscm)	Max. Allowable Emissions; Shell Bacharach Smoke Spot Test number (b)
Residual oil burning up to 265 gigaloules	Less than 13 (13.7) 13-50 (13.7-52.8) 50-250 (52.8-265)	Jan. 1, 1975 July 1, 1976 July 1, 1975	No requirement 0.03 (69) 0.020 (46)	4 4 4
Residual oil burning; existing and modified equipment	Greater than 250 (265)	July 1, 1975	0.020 (46)	4
Residual oil burning; new fuel burning equipment	Greater than 250 (265)	July 1, 1975	0.01 (23)	4
Distillate oil burning	All sizes	Oct. 1, 1972	No requirement	2
Solid fuel burning	250 (264) or less Greater than 250 (264)	July 1, 1975 Oct. 1, 1972	0.050 (114) 0.030 (69)	No requirement No requirement

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(a) Construction of residual oil fired units of less than 13 million BTU (13.7 gigajoules) per hour prohibited (See .06E(1).)

(b) The method used shall be D-2156 as published by the American Society for Testing and Materials.

(c) Construction of solid fuel fired units of less than 250 million BTU (264 gigajoules) per hour prohibited (See .06E(2).) Relates to Section .03.

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Table 3

Ambient Air Quality Standards

Pollutant	Frequency	More Adverse Range				Serious Level		Conversion Factor
	Times values may be exceeded per unit time	ug/m^3 Lower Limit	ug/m^3 Upper Limit	ppm Lower Limit	ppm Upper Limit	ug/m^3	ppm	
1. Sulfur oxides (expressed as sulfur dioxide concentrations)								
Annual Arithmetic Average[1]	Values not to be exceeded	39	79	0.015	0.03	79	0.03	$\frac{ug/m^3}{2620}$ = ppm
Daily Average	Once per year	131	262	0.05	0.10	262	0.10	
One Hour Average	8 times per month	262	525	0.10	0.20	525	0.20	
2. Particulate Matter a. Suspended Particulate								
Annual Arithmetic Average	Values not to be exceeded	65	75	-	-	75	-	
Daily Average	Once per year	140	160	-	-	160	-	

Table 3 cont'd

Pollutant	Frequency Times values may be exceeded per unit time	More Adverse Range Lower Limit	 Upper Limit	Serious Level		Conversion Factor
b. Dustfall		mg/cm^2/month		mg/cm^2/month		
Annual Arithmetic Average	Values not to be exceeded	0.35	0.50	0.50		$\frac{mg/cm^2}{.035}$ = ton/mi^2
Monthly Average	Values not to be exceeded	0.70	1.00	1.0		
				mg/m^3	ppm	
3. Carbon Monoxide 8-Hour Arithmetic Average 2	Once per year	No standard		10	9	mg/m^3 x 0.873 = ppm
Hourly Average	Once per year	No standard		40	35	
				ug/m^3	ppm Carbon	
4. Non-methane Hydrocarbons[3] 3-Hour Average[4]	Once per year	No standard		160	0.24	$\frac{ug/m^3}{655}$ = ppm
5. Photochemical Oxidants				ug/m^3	ppm Ozone	
Hourly Average	Once per year	No standard		160	0.08	$\frac{ug/m^3}{1960}$ = ppm
6. Nitrogen Dioxide				ug/m^3	ppm	
Annual Arithmetic Average	Values not to be exceeded	No standard		100	0.05	$\frac{ug/m^3}{1882}$ = ppm

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References:

1. Annual averages shall be for the calendar year for all pollutants.

2. Applies in areas representing generalized atmospheric levels; 20 ppm applies in any other place where members of the public congregate for extended periods of time.

3. The standards set forth in this regulation for hydrocarbons are not based upon the direct adverse effects of hydrocarbons but upon an empirical relationship, based upon ambient air quality measurements, between morning hydrocarbon concentrations and oxidant concentrations occurring later the same day. The hydrocarbon standard is designed primarily to achieve the standard for photochemical oxidants. In view of the lack of an exact quantitative relationship, the uncertainties in existing measurement techniques and a lack of full identification of the photochemically reactive species of hydrocarbons occurring in the ambient air in the region, these levels should be considered as tentative pending further scientific developments.

4. Three hour period: 6 a.m. to 9 a.m. Eastern Standard Time.

Maryland State Department of Health and Mental Hygiene
301 West Preston Street
Baltimore, Maryland 21201

(As Amended through December 17, 1974)

10.03.39 Regulations Governing the Control of Air Pollution in Area IV[†]

Pursuant to the authority conferred upon the Secretary of Health and Mental Hygiene by Article 43, Section 697, Annotated Code of Maryland, 1957 Edition, and Supplement, the following regulations governing the control of air pollution in Area IV are hereby established as requirements of the Department of Health and Mental Hygiene.

___01 CONTROL AND PROHIBITION OF OPEN FIRES

___01A General. No person shall cause, suffer, allow or permit an open fire except as provided in subsections ___01B, ___01C, and ___01D.

___01B Control Officer May Authorize Certain Open Fires. Subject to review by the Department, the Control Officer may, upon receipt of an application made on forms provided by the Department or local fire control agency, issue or approve a permit in writing allowing an open fire provided all of the following conditions are met:

1. The Control Officer is satisfied that there is no practical alternate method to dispose the material to be burned or to conduct the desired activity.
2. No hazardous condition or air pollution or nuisance will be created.
3. No burning will be done within 500 yards (457 meters) of one or more occupied buildings or a heavily travelled public roadway.
4. Fire control laws or regulations of other governmental agencies will not be violated.
5. No materials which produce dense smoke when burned, including but not limited to tires and roofing material, will be burned.
6. Such other conditions as the Control Officer may impose to minimize creation of smoke, to prevent nuisances and air pollution, and to protect the health, safety, comfort, and property of any persons shall be satisfied.
7. The material to be burned shall have originated on the premises on which it is to be burned.

[†] Washington Metropolitan Area comprising Montgomery and Prince George's Counties.

8. Exceptions. Methods of disposal by burning acceptable to the Department may be approved for use when distance limitations cannot be met.

9. Fires set in the course of agricultural operations in growing crops or raising fowl or animals or in accepted forestry practice. In no case shall this provision be construed as allowing the burning of ordinary household or barnyard trash in areas where provision is made for public collection of refuse.

__01C Public Officers May Authorize Certain Fires. Public officers, in the performance of their official duties, may set an open fire or give permission for an open fire, with concurrence of the Control Officer, provided all reasonable means are employed to minimize smoke and if the fire is necessary for one or more of the following reasons or purposes:

1. For the prevention of a fire hazard that cannot be abated by other means.

2. For the instruction of public fire fighters or industrial employees under supervision of the appropriate fire control official.

3. For the protection of public health or safety when other means for disposing of hazardous materials are not available.

__01D Allowed Open Fires. Open fires otherwise in conformance with other governmental fire control ordinances and provided no nuisance or air pollution is created, are allowed without permission as follows:

1. In those areas where no provision is made for public collection of leaves, the open burning of leaves originating on the premises by householders is permitted provided that no nuisance is created and that the fires are located no closer than 300 feet (91.4 meters) from any neighboring habitable dwelling or place where people work or congregate.

2. In those areas where no provision is made for public collection of refuse, burning of ordinary household (I.I.A. Waste types 0 and 1 only) originating on the premises, excluding commercial establishments, by householders is permitted provided that:

   a. The fires are located no closer than 300 feet (91.4 meters) from any neighboring habitable dwelling or place where people work or congregate;

   b. Materials are not burned which create dense smoke (emissions of an opacity or darkness greater than No. 2 on the Ringelmann Smoke Chart).

3. Cooking of food on other than commercial premises.

4. Fires set in the course of agricultural operations in growing crops or raising fowl or animals or in accepted forestry practice. In no case shall this provision be construed as allowing the burning of ordinary household or barnyard trash in areas where provision is made for public collection of refuse.

5. Recreational purposes, such as campfires.

6. Oil or gas fired salamanders or similar devices designed specifically for space heating or warming of outdoor workers, etc., provided no visible emissions are created.

___02 CONTROL AND PROHIBITION OF VISIBLE EMISSIONS FROM INSTALLATIONS*

___02A *Visible emissions. No person shall cause, suffer, allow or permit the discharge of emissions from any installation or building other than water in an uncombined form, which are visible to human observers.

___02B Exceptions.

1. Subsection ___02A shall not apply to emissions during the building of a new fire, cleaning of fires, soot blowing, start-up, any process modification or adjustment, or occasional cleaning of control equipment, the shade or appearance of which is not darker in shade or appearance than that designated as No. 2 on the Ringelmann Smoke Chart or greater than 40% opacity for a period of no more than 6 consecutive minutes in any sixty minutes.

2. Any person who believes that meeting the requirements of subsection ___02A above is not practical in a particular instance may request an exception to the requirements of subsection ___02A. Such a request shall be submitted to the Department in writing and include evidence to show why compliance is not practical. Upon the receipt of a request for an exception, the Department shall schedule a public hearing to be held within 60 days. The applicant for the exception shall, at least 30 days prior to the hearing date, prominently advertise the hearing by notice in a newspaper of general circulation in the Subdivision in which the facility or source for which the exception is sought is located. The notice shall include the name of the facility or source and such additional information as the Department may require. Based upon the evidence presented at the hearing, the Secretary may grant an exception to subsection .02A for a period not to exceed five years under such other terms and conditions as are appropriate to reduce the impact of the exception.

3. Subsection 02A shall not apply to emissions of the following:

   a. From those incinerators that are to phased out under provisions of subsection ___06C;

   b. From the burning of wood in fireplaces on premises used for residential or recreational purposes:

Consent order dated 7/28/78 between Potomac Electric Power Co. and Maryland Department of Health. See non regulatory Federal Register Publication 12/6/79

Secretarial order for Chalk Point Generating Station Unit #3. See Non-Regulatory Section Federal Regulatory Section 9/3/80.

c. From open fires (except salamanders) permitted under provisions of subsections ___01B, ___01C, and ___01D of this regulation.

___02C Visible Emissions from Internal Combustion Engine Powered Equipment.

1. Definitions

For the purpose of this regulation:

a. "Internal Combustion Engine" hereinafter referred to as "engine", shall mean all engines except those used for propulsion of ships, or vehicles licensed to operate upon the public highways within the State, or engines employed solely for agricultural and recreational purposes unless it is an integral part of a stationary installation.

b. "Idle" shall mean the condition during which the engine is not performing useful net work to enable the piece of equipment to accomplish its designed purpose(s).

2. Emissions During Idle Mode

No person shall cause, suffer, allow or permit the discharge of emissions from any engine operating at idle greater than 10% opacity or darker in shade or appearance than that designated as No. 1/2 on the Ringlemann Smoke Chart except for the allowable discharge of water in an uncombined form.

3. Emissions During Operating Mode

No person shall cause, suffer, allow or permit the discharge of emissions from any engine operating at other than idle conditions, greater than 40% opacity or darker in shade or appearance than that designated as No. 2 on the Ringelmann Smoke Chart.

4. Exceptions

a. Paragraph (2) above shall not apply for a period of two consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

b. Paragraph (2) above shall not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:

(1) Engines that are idled continuously when not in service: 30 minutes.

(2) All other engines: 15 minutes

c. Paragraphs (2) and (3) above shall not apply while maintenance repair or testing is being performed by qualified mechanics.

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5. Effective Date

The provisions of this subsection ___.02C shall become effective January 1, 1975.

—02D Visible Emissions from Ships. ← add dash

No person or agent shall cause, suffer, allow or permit the discharge of emissions from any ship in excess of the following limits:

	OPERATING MODE	MAXIMUM OPACITY OR RINGELMANN CHART NO.	ALLOWABLE TIME
(1)	Underway, at berth or at anchor	20% - 1	No limit
(2)	Soot blowing Underway		
	a. Within one mile of any shore while underway		
	b. At Berth or Anchor	--	No soot blowing allowed
	(1) Within first or last 24 hours of arrival or departure		
	(2) Any other 24 hour period.	--	No soot blowing allowed
		No limit	15 minutes for each boiler in operation provided that no nuisance is created.
(3)	Cleaning and adjusting of combustion equipment while at berth or anchor	40% - 3	Not to aggregate more than 4 minutes in any 60 minute period.
(4)	Start up of cold boiler or engine	No limit 60% - 3	5 consecutive minutes 10 consecutive minutes additional
(5)	Anchoring, berthing, or other maneuvering requiring rapid changes in power	80% - 4	No limit
(6)	Upset/breakdown, emergency/casualty or Coast Guard safety tests	No limit	No limit. The Control Officer shall be notified as to the reason for the excessive emissions.
(7)	Docktrials of new or rebuilt boilers or engines	No limit	No limit provided no nuisance is created and the Control Officer has been notified before 3:00 PM the day before the docktrials are to be conducted.

___03 CONTROL AND PROHIBITION OF PARTICULATE MATTER EMISSIONS

___03A General Conditions.

1. Calculations. All calculations of particulate matter emissions shall be made in terms of grains per standard cubic foot (milligrams per standard cubic meter) of dry exhaust gas (gr/SCFD)(mg/dscm).

    a. Calculations shall be made as if 50 percent excess air had been used in fuel burning equipment.

    b. Calculations made for incinerator emissions shall be adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used.

2. For the purposes of these regulations:

    a. "Existing installations" shall mean those erected prior to these regulations. (Date will be noted by reference number on specific regulations.)

    b. "New installations" shall mean those erected on or after the effective date of these regulations. (Date will be noted by reference number on specific regulations.)

___03B Control of Particulate Matter from Fuel Burning Equipment.*

1. Dust Collector Devices Required

    a. No person shall cause, suffer, allow or permit the combustion of residual oil in fuel burning equipment unless such equipment is fitted with a dust collector which is so designed that it can reasonably be expected to produce sufficient dust particle force, residence time and particle retention to meet the emission requirements of Table 1.

    b. No person shall cause, suffer, allow or permit the combustion of solid fuel in fuel burning equipment unless the equipment is fitted with a dust collector which is so designed that it can reasonably be expected to produce sufficient dust particle force residence time and particle retention to remove a minimum of 90% by weight of the particulate matter from the flue gas. For solid fuel burning equipment having a heat input greater than 250 million BTU/hour, the dust collector shall remove a minimum of 99% by weight of the particulate matter from the flue gas.

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* Consent order dated 7/28/78 between Potomac Electric Power Co. and Maryland Department of Health. See non regulatory Federal Register Publication 12/6/79. Secretarial order for Chalk Point Generating Station Unit #3. See non regulatory Section Federal Regulatory Section 9/3/80.

2. Residual Fuel Oil Burning Equipment. No person shall cause, suffer, allow or permit particulate matter caused by the combustion of residual fuel oil to be discharged into the atmosphere in excess of the amounts shown and in accordance with the effective dates set forth in Table 1.

3. Solid Fuel Burning Equipment. No person shall cause, suffer, allow or permit particulate matter caused by the combustion of solid fuel to be discharged into the atmosphere in excess of the amounts shown and in accordance with the effective dates set forth in Table 1.

4. Distillate Fuel Oil Burning Equipment. No person shall cause, suffer, allow or permit the burning of distillate oils in such a manner that discharges to the atmosphere exceed the amounts shown and in accordance with the effective dates set forth in Table 1.

5. No person shall cause, suffer, allow or permit the operation of a rotary cup burner on fuel oil burning equipment having a maximum furnace heat input specified in the following table after the corresponding dates indicated in the table:

Maximum Furnace Heat Input Million BTU (gigajoules) per Hour	Effective Date
5.0 or less (5.3)	July 1, 1976
5.0 - 13.0 (5.3-13.7)	July 1, 1977

One year prior to the effective date, a schedule for replacement shall be submitted to the Department, specifying the location of and date of completion of replacement for each affected burner.

6. Exceptions
   a. Fuel Burning equipment burning gas with an interruptible gas service shall be exempt from the provisions of paragraphs .03B(1) and .03B(2).

   b. The Control Officer may grant exceptions to paragraph .03B(3) and .03B(4) under the following conditions:

      (1) When the application of either requirement to a resident building housing two or less families creates undue economic hardship on individual families residing therein or

      (2) When the equipment's primary way of transferring heat is by the radiant method rather than a piped fluid system such as forced hot air, hydronic, or steam. Equipment in this category would include stoves, room heaters, floor or wall mounted circulating heaters, fireplaces or similar devices.

c. Fuel oil burning equipment which has been fitted with a dust collector or for which a dust collector contract has been met prior to July 1, 1974 shall be exempt from the provisions of paragraph .03B(5).

d. Fuel Burning installations on ships shall be exempted from the provisions of Section .03.

___03C Particulate Matter from Incinerators. No person shall cause, suffer, allow or permit to be discharged into the outdoor atmosphere from any incinerator, particulate matter to exceed the following limitations:

1. Pathological incinerators 0.01 gr/SCFD

2. All other incinerators 0.03 gr/SCFD (68.7 mg/dscm)

___03D Particulate Matter from Grain-Drying and Grain-Handling Installations.

(1) A person may not cause or permit the operation of any grain-drying installation unless all exhaust gases discharged pass through a 24 mesh screen or the installation is fitted with other equipment or incorporates design features that will accomplish equally effective results in reducing particulate matter discharge. Mesh means Tyler Standard Screen Scale or its equivalent.

(2) Exemptions.

(a) All grain-drying installations, except those in the City of Baltimore, in operation before January 1, 1975, are exempt from the provisions of Section D(1), above, unless otherwise ordered by the Department after receipt of complaints which have been substantiated by Departmental investigation.

(b) Grain-drying equipment with a total operating capacity of 1000 bushels per hour or less (manufacturer's rated capacity at 5 percent moisture removal), located on a farm and more than 200 feet (60.9 meters) from a habitable dwelling is exempt from the provisions of Section D(1), above.

(3) A person may not cause or permit the operation of any grain-handling installation not located on a farm without taking reasonable precautions to prevent particulate matter from becoming airborne. These reasonable precautions shall include:

(a) Proper housekeeping and cleaning throughout the entire facility, including but not limited to, the prompt removal of spilled and fugitive "beeswings" and grain-dust accumulation by a technique which prevents this material from escaping into the atmosphere.

(b) Covering, at all times when in motion, open-bodied vehicles transporting dusty material except for agricultural products in their natural state.

(c) Proper maintenance of all aspiration systems and dust collection devices.

(d) The use of good engineering design and operational practices that will minimize emissions from grain receiving, conveying, processing, mixing, and load-out facilities. For those operations listed below, located within the City of Baltimore, good engineering design and operational practices shall include the following:

  (i) For grain exporting terminals only, use of aspiration systems and fabric filter dust collection devices on cleaning, separating, handling, conveying, and internal transferring equipment unless specifically exempted by the Department due to the nature, size, throughput, or location of the equipment.

  (ii) Use of aspiration systems and fabric filter dust collection devices on all truck and railroad car unloading (dump pit) and load-out areas. All unloading (dump pit) and load-out areas shall be enclosed in sheds or buildings and utilize means or devices (including quick-closing doors, air curtains, or wind deflectors) to minimize the effect of wind currents and drafts. Any alternative method, technique, or system, which is equally effective in reducing emissions may be used if approved by the Department.

  (iii) Use of a system for the loading of grain onto a ship or barge which shall include the use of telescoping loading spouts and automatic level sensing devices. Each spout shall include an aspiration system exhausting to a fabric filter dust-collection device. While loading grain, each spout shall be kept at a height no greater than 2 feet (0.6 meter) above the level of the grain surface or at the full extension of the spout except during topping-off operations or when trimming machines are being used. The Department may approve the use of alternative control devices, methods, techniques, work practices, or process changes, provided that emissions during loading are not greater than 20% opacity.

(4) A person may not cause or permit to be discharged into the outdoor atmosphere from any emission control equipment installed in accordance with the requirements of Section D(3), particulate matter in excess of 0.03 gr/SCFD (68.7 mg/dscm).

(5) Compliance Schedule.

(a) A person who electes to achieve compliance with Section D (3)(d)(iii) through the use of telescoping loading spouts, level sensing devices, aspiration systems and fabric filter dust collection devices, shall adhere to the increments of progress contained in the following schedule.

(i) By June 1, 1981: submission of a permit to construct application for the installations necessary to achieve compliance.

(ii) By January 1, 1982: beginning of construction of those installations necessary to achieve compliance.

(iii) By December 1, 1982: completion of construction and beginning of operations of those installations necessary to achieve compliance.

(b) A person who elects to achieve compliance with Section D (3)(d)(iii) through the use of approved alternative techniques shall adhere to the increments of progress contained in the following schedule.

(i) By July 1, 1979, submission of a detailed compliance program together with all required permit to construct applications for the installations necessary to achieve compliance.

(ii) As expeditiously as practicable, but not later than July 1, 1980, complete the approved alternative techniques as described in the compliance program.

___03E Particulate Matter from Other Installations.

A person shall not cause, suffer, allow or permit to be discharged into the atmosphere from any other installation, particulate matter in excess of 0.03 gr/SCFD (68.7 mg/dscm).

___03F Particulate Matter from Materials Handling and Construction and Other Acts.

1. A person may not cause or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. These reasonable precautions shall include but not be limited to the following, when appropriate as determined by the Control Officer.

   a. Use of water or chemicals for control of dust in the demolition of existing building or structures, construction operations, the grading of roads or the clearing of land;

   b. Application of asphalt, oil, water or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts;

   c. Installation and use of hoods, fans and dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operations;

   d. Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution. Alternate means may be employed to achieve the same results as would covering;

   e. The paving of roadways and their maintenance in a clean condition;

   f. The prompt removal from paved streets of earth or other material which has been transported thereto by trucks or earth moving equipment or erosion by water.

2. No person shall cause, suffer, allow or permit visible emissions beyond the lot line of the property on which the emissions originate.

___03H Particulate Matter from Unconfined Sources.

1. A person may not cause or permit emissions from an unconfined source without taking reasonable precautions to prevent particulate matter from becoming airborne. These reasonable precautions shall include, when appropriate as determined by the Department, the installation and use of hoods, fans, and dust collectors to enclose, capture, and vent emissions. In making this determination, the Department shall consider technological feasibility, practicality, economic impact and the environmental consequences of such decision.

2. Exemptions. The following are exempt from the provisions of Section H(1):

   a. Iron and Steel Production Installations which are subject to COMAR 10.18.04.03G.

b. Grain drying and grain handling installations.

___04 CONTROL AND PROHIBITION OF GAS AND VAPOR EMISSIONS

___04A General.

1. Odors. No person shall cause, suffer, allow or permit the discharge into the atmosphere of gases, vapors or odors beyond the property line in such manner that a nuisance or air pollution is created.

2. General Conditions. All calculations of emissions governed by ___04C shall be adjusted to standard conditions.

___04B Sulfur Oxides From the Burning of Fuel. No person shall burn, sell or make available for sale any fuel unless the following conditions are met:

1. On and after the effective date of this regulation, (1) all fuels shall contain 1% or less sulfur by weight.

2. On and after July 1, 1972, distillate fuel oils shall contain 0.3% or less sulfur by weight.

___04C Sulfur Compounds From Other Than Fuel Burning Equipment.

1. No person shall cause, suffer, allow or permit the discharge into the atmosphere from installations other than fuel burning installations of gases containing more than 500 ppm of sulfur dioxide. Such installations constructed prior to February 21, 1971 shall be limited to not more than 2,000 ppm sulfur dioxide.

2. No person shall cause, suffer, allow or permit the discharge into the atmosphere from installations other than fuel burning installations of gases containing sulfuric acid, sulfur trioxide, or any combination thereof greater than 35 milligrams per cubic meter reported as sulfuric acid. Such installations constructed prior to February 21, 1971 shall be limited to not more than 70 milligrams per cubic meter of sulfuric acid, sulfur trioxide or any combination thereof reported as sulfuric acid.

3. No person shall cause, suffer, allow or permit the discharge into the atmosphere of process gas containing hydrogen sulfide from any petroleum refinery unless the gas is burned in any afterburner at 1300°F (704°C) for a period of 0.3 seconds or more or in an equivalent device approved by the Department. degree symbol

4. No person shall cause, suffer, allow or permit the discharge of petroleum refinery process gas into an afterburner or gas collection system connected to an afterburner if the concentration of hydrogen sulfide in the process gas is greater than 0.1 gr/SCFD (229mg/dscm).

___04D Exceptions.

1. Fuels containing sulfur in excess of the amounts specified in ___04B may be burned, sold, or made available for sale provided control equipment to desulfurize stack gases has been installed or other methods or devices are employed by the user or purchaser such that the discharge of sulfur dioxide to the atmosphere does not exceed that which would occur if fuels meeting the sulfur requirements specified in ___04B were burned.

2. Secretary may authorize the operation of a scavenger or recovery plant to reclaim sulfur compounds which would otherwise be emitted into the air provided the operation of such scavenger or recovery plant would reduce total emission of sulfur compounds at least 95% with said plant in operation compared to emissions when the aforementioned plant is not operating. Such authorization may result in emission of sulfur compounds whose concentration exceed those permitted by subsections 1 and 2 of ___04C. This subsection shall not apply to sulfuric acid manufacturing operations.

3. Fuel Burning installations on ships and the sale of fuel for such installations shall be exempt from the provisions of this section pertaining to the burning of fuel of specified sulfur content.

4. Paragraphs .04C(3) and .04C(4) shall not apply to the combustion of process upset gas in a flare, or the combustion in a flare of process gas or fuel gas released to the flare as a result of relief valve leakage.

___04E Request for Analysis. Any person offering to sell or deliver fuel or any person responsible for an installation in which fuel is burned shall, upon request, submit to the Department or the Control Officer such analyses of the fuel or process gas as may be required to determine compliance with this section.

___04F Control of Odors from the Reduction of Offal.

1. No person shall cause, suffer, allow or permit the use of any ininstallation primarily engaged in the reduction of offal unless all gases, vapors and gas-entrained matter from said installation are:

   a. First cooled to a temperature of not greater than 160° F and then

   b. The non-condensible fraction is incinerated at a temperature of not less than 1400°F (760°C) for a period of not less than 0.4 second.

   c. Alternate methods may be used if determined by the Department to be equally or more effective for the purpose of controlling air pollution.

2. Any person processing or incinerating gases, vapors or gas-entrained matter as required by subsection ___04F1 shall when ordered by the Department install, operate and maintain in good working order and calibration, continuous recording devices for indicating temperature, or pressure or other operating conditions. Such devices shall be approved by the Department and all data collected shall when ordered by the Department be made available to the Department or the Control Officer for inspection or copying. Such data shall be kept on file by responsible persons for at least 60 days.

3. No person shall cause, suffer, allow or permit any offal to be handled, transported or stored or to undertake the preparation of any offal without taking reasonable precautions, when approved by the Department, shall include but not be limited to the following:

    a. Storage of all offal, prior to or in the process of preparation, in properly enclosed and vented equipment or areas, together with the use of effective devices and/or methods to prevent the discharge of odors or odor bearing gases.

    b. Use of covered vehicles or containers of watertight construction for the handling and transporting of offal.

c. Use of hoods and fans to enclose and vent the storage, handling, preparation and conveying of any odorous materials together with effective devices and/or methods to prevent emissions of odors or

4. Whenever the emissions from an installation primarily engaged in the reduction of offal create a nuisance or air pollution, beyond the property line, the Department may require that the building in which such installation is located be vented so that all emissions are treated by incineration or by other methods if determined by the Department to be equally or more effective for the purpose of controlling emissions.

5. The requirements of this subsection ___o4F shall not apply to any installation engaged exclusively in the processing of food for human consumption.

___04G Nitrogen Oxides from Fuel Burning Equipment.

1. New Fuel Burning Equipment.[4] No person shall cause, suffer, allow or permit the discharge of nitrogen oxides into the atmosphere, from any new fuel burning equipment having a heat input rating of 250 million British Thermal Units (BTU) (264 gigajoules) per hour or more, in excess of the following rates:

   a. 0.20 pounds (86 gm) per million BTU (gigajoules) heat input, maximum two hour average, expressed as NO_2 when gaseous fuel is burned.

   b. 0.30 pounds (129 gm) per million BTU (gigajoules) heat input, maximum two hour average, expressed as NO_2 when liquid fuel is burned.

   c. 0.50 pounds (215 gm) per million BTU (gigajoules) heat input, maximum two hour average, expressed as NO_2 when solid fuel is burned.

3. Fuel burning installation on ships shall be exempt from provision of this subsection.

___04H Nitrogen Oxides from Nitric Acid Plants.

No person shall cause, suffer, allow or permit the discharge into the atmosphere from any nitric acid plant, nitrogen oxides in excess of 3.0 pounds per ton (1.50 kilograms per 1000 kilograms) of acid (100 percent basis) produced.

___04I Carbon Monoxide from other than Fuel Burning Equipment.

1. No person shall cause, suffer, allow or permit the discharge of carbon monoxide gas generated during the operation of a grey iron cupola, blast furnace, or basic oxygen steel furnace into the atmosphere unless the gas is burned with excess oxygen at 1300° (704°C) or more for 0.3 seconds or longer in a direct flame afterburner or Depart-

ment approved equivalent control method which reduces the concentration of carbon monoxide in the effluent to 1% by volume or less. The control method shall be equipped with an indicating pyrometer readily visible to the operator.

2. No person shall cause, suffer, allow or permit the discharge of a carbon monoxide waste gas stream from any catalyst regeneration of a petroleum cracking system, petroleum fluid coker, or other petroleum process into the atmosphere, unless the waste gas stream is burned with excess oxygen at 1300°(704°C) or more for 0.3 seconds or longer in a direct flame afterburner or Department approved equivalent control method which reduces the concentration of carbon monoxide in the effluent to 1% by volume or less. The control method shall be equipped with an indicating pyrometer positioned in the working area readily visible to the operator.

3. No person shall cause, suffer, allow or permit the discharge of carbon monoxide gas from any installation which, without emission control measures, would discharge carbon monoxide gas at a rate exceeding 500 pounds (227 kilograms) per day and at a concentration exceeding 12% by volume, unless the carbon monoxide gas is burned with excess oxygen at 1300° F (704°C) or more for 0.3 seconds or longer in a direct flame afterburner or Department approved equivalent control method which reduces the concentration of carbon monoxide in the effluent to 1% by volume or less. The control method shall be equipped with an indicating pyrometer readily visible to the operator.

4. Exceptions: Paragraph 3 shall not apply to:

   a. Coking process equipment used directly in the manufacture of metallurgical coke by the pyrolysis of coal in the absence of air.

   b. Process equipment designated in paragraphs 1 and 2 above.

___04J Hydrocarbons From Other Than Fuel Burning Installations. ✓

1. Definitions for purposes of these regulations:

   a. "Architectural Coating" shall mean any coating used for residential, commercial or industrial buildings and their appurtances.

   b. "Motor Vehicle Fuel" shall mean motor vehicle fuel as defined in Article 56, Section 135 (b) of the Annotated Code of Maryland.

   c. "Organic Material" shall mean chemical compounds of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbonates, metallic carbides and ammonium carbonates.

   d. "Organic Solvent" shall mean any organic material which is liquid at standard conditions and which is used as a dissolver, viscosity reducer or cleaning agent.

e. "Photochemically Reactive Organic Solvent" shall mean any organic solvent with an aggregate of more than 20% of its total volume composed of the chemical compounds classified below or which exceeds any of the following individual percentage composition limitations referred to the total volume of solvent:

(1) A combination of hydrocarbons, alcohols, aldehydes, esters or ketones any of which has an alefinic or cyclo-olefinic type of unsaturation: 5%.

(2) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8%;

(3) A combination of ethylbenzene, ketones having branched hydrocarbon structures or toluene: 20%.

Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the above groups or organic compounds, it shall be considered as a member of the most reactive chemical group, that is, that group having the least allowable percent of the total volume of solvents.

For architectural coatings only, the volume of water contained in the solvent may be used to compute the total volume of the solvent in determining percentages of photochemically reactive organic solvents.

f. "Reid Vapor Pressure" shall mean the absolute pressure in pounds per square inch determined at 100° F (38° C) and v/l ≐ 4 (ratio of vapor volume to liquid volume, as defined in ASTM designation D 323 - 58) by using apparatus and procedures as standardized under the auspices of the American Society for Testing and Materials.

g. "True Vapor Pressure" shall mean the absolute pressure in pounds per square inch determined at storage conditions. Storage temperature shall be taken as the average monthly temperature. If the storage is subject to solar and ambient heat gain only, the temperature shall be taken as the average monthly temperature to a maximum average of 77° F (25° C) (average storage temperature for May through September). True vapor pressure shall be determined by measurement at the storage conditions or by the use of a nomograph published by the Coordinating Research Council and included with these regulations as Figure 1, relating true vapor pressure to Reid vapor pressure and storage temperature.

h. "Vapor Balance Line" shall mean any connection closed to the atmosphere between the vapor space of two storage containers that will allow the vapors to be displaced as the liquid is transferred from one tank to the other.

i. "Photochemically Reactive Organic Materials" shall include any of the following:

   (1) Hydrocarbons, alcohols, aldehydes, esters or ketones any of which has an olefinic or cycle-olefinic type unsaturation,

   (2) Aromatic compounds with 7 or more carbon atoms,

   (3) Ketones having branched hydrocarbon structure,

   (4) Motor vehicle fuel with a true vapor pressure greater than 1.5 psia at 77° F (10.3 KN/m^2 at 25° C),

   (5) Organic solvents which have been in direct contact with flame in the presence of oxygen,

   (6) Compounds emitted from a process in which organic solvents are baked, heat cured or heat polymerized in the presence of oxygen.

2. Organic Material

a. After January 1, 1973, no person shall cause, suffer, allow or permit organic material having a true vapor pressure in the range of 1.5 to 11 psi (10.3 to 75.8 KN/m^2) inclusive to be placed, stored or held in any existing stationary tank reservoir with a capacity of greater than 65,000 gallons (246 cubic meters), or in any new stationary tank reservoir with a capacity of greater than 40,000 gallons (151 cubic meters) unless the tank is equipped with one or more of the following organic material vapor control devices, properly installed, well-maintained and in operating condition.

(1) A floating roof resting on the surface of the liquid contents equipped with a closure seal, or seals, to close the space between the roof edge and tank wall, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(2) A pressure tank system maintaining a pressure at all times so as to prevent organic material loss to the atmosphere, or

(3) A vapor recovery system capable of collecting the organic materials emitted from the tank and disposing of these emissions so as to prevent their emission to the atmosphere, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(4) Other equipment equal or greater in efficiency to those devices listed above, and approved by the Department.

b. After January 1, 1973, no person shall cause, suffer, allow or permit organic materials having a true vapor pressure greater than 11 psi (75.8 KN/m^2) to be placed, stored or held in any existing stationary tank reservoir with a capacity of greater than 65,000 gallons (246 cubic meters), or in any new stationary tank reservoir with a capacity greater than 40,000 gallons (151 cubic meters) unless equipped with one of the following organic material vapor control devices properly installed, well-maintained and in operating condition:

(1) A pressure tank system maintaining a pressure at all times so as to prevent organic material loss to the atmosphere, or

(2) A vapor recovery system capable of collecting the organic materials emitted from the tank and disposing of these emissions so as to prevent their emission to the atmosphere, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(3) Other equipment equal or greater in efficiency to those devices listed above, and approved by the Department.

c. After January 1, 1974, no person shall cause, suffer, allow or permit organic material with a true vapor pressure of 1.5 psi (10.3 KN/m^2) or greater to be loaded into any tank truck, tank trailer or other contrivance from any existing loading system on any premise at which the total daily throughput (1/300 of actual annual throughput) exceeds 40,000 gallons (151 cubic meters) or from any new loading system on any premise at which the total daily throughput exceeds 20,000 gallons (75.7 cubic meters) unless the loading system is equipped with with a vapor recovery system that is properly installed, well-maintained and in operation and has been approved by the Department. Additions to, or modifications or alterations of existing loading systems which increase the total daily throughput at a premise to more than 40,000 gallons (151 cubic meters) shall require such a vapor recovery system for the entire loading system. All loading connections on the vapor lines shall be equipped with fittings which shall be vapor tight and will automatically and immediately close upon disconnection so as to prevent release of organic material from these fittings. The provisions of this section shall not apply to the loading of motor vehicle fuel tanks.

d. After January 1, 1974, no person shall cause, suffer, allow or permit any motor vehicle fuel with a true vapor pressure of 1.5 psi (10.3 KN/m^2) or greater to be loaded from a tank truck or trailer or other contrivance into a stationary tank having a capacity greater than 5,000 gallons (18.9 cubic meters), but less than 40,000 gallons (151 cubic meters) and installed after January 1, 1973, unless the loading system is equipped with a vapor balance line or equally effective vapor discharge control system approved by the Department. Components of the vapor balance line consisting of a vapor space connection on the tank and a compatible vapor return line on the truck shall be installed by the following dates:

Tank connection	January 1, 1973
Truck vapor return line	January 1, 1974

e. Motor Vehicle Fuel.

(1) A person shall not cause or permit any motor vehicle fuel with a true vapor pressure of 1.5 psi (10.3 KN/m^2) or greater to be loaded into an existing stationary tank having a capacity of less than 40,000 gallons (151 cubic meters) at a premise where the monthly average throughput (1/12 of the annual throughput for the preceding year) exceeds 50,000 gallons per month unless the loading system is equipped with a vapor balance line capable of a minimum of 90 percent control of the emission or equally effective vapor discharge control system approved by the Department.

(2) After May 31, 1977 no person shall cause, suffer, allow of permit any motor vehicle fuel with a true vapor pressure of 1.5 psi (10.3 KN/m^2) or greater to be loaded into an existing stationary tank having a capacity of less than 40,000 gallons (151 cubic meters) a premise where the monthly average throughput exceeds 20,000 gallons (76 cubic meters) per month unless the loading system is equipped with a vapor balance line capable of a minimum of 90 percent control of the emission or equally effective vapor discharge control of the emission approved by the Department.

(3) No person shall cause, suffer, allow or permit any motor vehicle fuel tank to be filled with motor vehicle fuel with a true vapor pressure of 1.5 psi (10.3 KN/m^2) or greater from a premise where stationary tanks are equipped with vapor balance lines unless a vapor collecting system, approved by the Department, is installed and in good operating condition. This part shall become effective 18 months after the Department has approved two or more such vapor collection systems.

f. Organic Solvents

1. No person shall cause, suffer, allow or permit the discharge of any emissions of organic material in any one day from any existing installation or building in which any organic solvent or solvent containing material is in direct contact with a flame or is baked, heat-cured or heat polymerized in the presence of oxygen unless this discharge does not exceed 200 pounds (90.7 kilograms) per day or unless the discharge is reduced by at least 85 percent overall. The corresponding limit for new installations (9) of the type subject to regulation under this paragraph shall be 15 pounds (6.80 kilograms) per day or an 85 percent reduction overall.

2. No person shall cause, suffer, allow or permit the discharge of any emissions of photochemically reactive solvent in any one day from any existing installation or building (10) not specifically defined in paragraph (a) above, used for employing, applying, evaporating, drying, processing or manufacturing any such solvent or material containing such solvent unless this discharge does not exceed 200 pounds (90.7 kilograms) per day or unless the discharge is reduced by at least 85% overall. The corresponding limit for new installations (11) of the type subject to regulation under this paragraph shall be 40 pounds (18.1 kilograms) per day or an 85% reduction overall.

Exceptions to this provision shall include the operation of tar heaters, coke ovens and air ventilating systems evacuating spaces in which the solvent concentration is lower than the TLV for human exposure as defined by the American Conference of Governmental Industrial Hygienists.

3. A person incinerating, absorbing or otherwise processing organic materials pursuant to this rule shall provide, properly install and maintain in calibration, in good working order and in operation devices as specified in the authority to construct or the permit to operate, or as specified by the Department for indicating temperatures, pressures, rates of flow or other operating conditions necessary to determine the degree and effectiveness of air pollution control.

5. Drycleaning Solvent.

   (1) A person shall not cause or permit the commercial use of any photochemically reactive solvent for the service of drycleaning of clothing or household items.

   (2) The owner or operator of any premise subject to the requirements of this subparagraph .04J(3)d shall submit to the Department the following information by January 2, 1974:

   Location of premise
   Source of supply and identifying name, number or purchase specification for all drycleaning solvents used

6. The provisions of this paragraph shall not apply to:

   (1) The use of any material, in any installation or building described in subparagraphs (3)a, (3)b, or (3)c above, if:

      (a) The volatile content of such material consists only of water and organic solvents, and

      (b) The organic solvents comprise not more than 20 percent by volume of said volatile content, and

      (c) The volatile content is not photochemically reactive as defined in subparagraph .04J(1)e, and

      (d) The organic solvent or any material containing organic solvent does not come into contact with flame.

   (2) The use of any material, in any installation or building described in subparagraphs (3)a, (3)b, or (3)c above, if:

(a) The organic solvent content of such material does not exceed 20 percent by volume of said material, and

(b) The volatile content is not photochemically reactive as defined in subparagraph .04J(1)e, and

(c) More than 50 percent by volume of such volatile material is evaporated before entering a chamber heated above ambient application temperature and

(d) The organic solvent or any material containing organic solvent does not come into contact with flame.

(3) The use of any material, in any installation or building described in subparagraphs (3)a, (3)b, or (3)c above, if

(a) The organic solvent content of such material does not exceed 5 percent by volume of said material, and

(b) The volatile content is not photochemically reactive as defined in subparagraph .04J(1)e, and

(c) The organic solvent or any material containing organic solvent does not come into contact with flame.

3. Architectural Coating

a. No person shall cause, suffer, allow or permit anyone to sell, or offer for sale, any architectural coatings containing a photochemically reactive solvent in containers of greater than one gallon (3.78 liter) capacity, nor shall any person apply or evaporate such architectural coatings from such containers.

b. No person shall cause, suffer, allow or permit anyone to sell, or offer for sale, photochemically reactive solvents as thinners or diluents for architectural coatings in containers of greater than one gallon (3.78 liter) capacity.

c. No person shall cause, suffer, allow or permit anyone to thin or dilute any architectural coating in quantities greater than one quart (0.95 liter) of a photochemically reactive solvent per gallon (3.78 liter) of architectural coating.

d. Provisions of this section shall become effective on July 1, 1973. After this date, persons responsible for formulation and/or distribution of architectural coatings shall, upon request by the Department, submit a chemical analysis of solvents employed. The analysis shall contain sufficient detail to establish compliance with the provisions of these regulations. Such information shall be entitled to protection as trade secrets and the Department shall keep such information confidential.

4. Solvent Disposal

After July 1, 1973, no person shall cause, suffer, allow or permit the disposal of five gallons (18.9 liters) or more per day or 55 gallons (208 liters) or more per month of any photochemically reactive solvent by any means which will result in evaporation of such solvent into the atmosphere.

5. Organic Material Water Separators

After January 1, 1974, no person shall cause, suffer, allow or permit the discharge of organic material to the atmosphere from single or multiple compartment organic material water separators that receive effluent water containing 200 gallons (757 liters) of organic material or more per day having a true vapor pressure of 1.5 psi (10 KN/m^2) or greater unless one or more of the following vapor control devices is properly installed, in good working order and in operation:

a. A floating roof resting on the surface of the liquid contents equipped with a closure seal, or seals, to close the space between the roof edge and tank wall, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

b. A vapor recovery system capable of collecting the organic materials emitted from the tank and disposing of these emissions so as to prevent their emission to the atmosphere, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

c. Other equally effective devices as approved by the Department.

___04K Use of Waste Oils as Fuel

1. No person shall burn, sell, or make available for use as fuel in any installation any waste oil including but not limited to, used petroleum products, crank case draining, cutting oils, vegetable oils, or combustible fluids salvaged from any automotive or industrial use without obtaining the prior approval of the Department.

2. Any person desiring to use waste oil as a fuel in any installation shall, prior to the use thereof, submit to the Department such information and analysis as the Department may require.

3. After consideration of the information submitted by a prospective user of waste oil, the Department shall enter an Order approving or disallowing the use of such fuel or approving its use with such conditions as the Department finds necessary. In the event the Department shall disapprove or condition the use of such fuel a person aggrieved by the Order may request a hearing within 10 days after receipt of the Order. Where a hearing is requested, it shall be held pursuant to Article 43, Section 698(c) (d) of the Annotated Code of Maryland.

___05 Reserved

___06 CONTROL AND PROHIBITION OF INSTALLATIONS AND OPERATIONS

___06A General. No installation or premise shall be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation shall in any manner be construed as authorizing or permitting the creation of or maintenance of a nuisance or air pollution.

___06B Circumvention. No person shall install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total weight of emissions, conceals or dilutes an emission which would otherwise constitute a violation of any applicable air pollution control regulations.

___06C Prohibition of Certain Incinerators.

1. No person shall cause, suffer, allow or permit the construction of any incinerator on or after the effective date of this subsection ___06C1(11) if the use of such incinerator will be prohibited under provisions of subsection ___06C2.

2. No person shall cause, suffer, allow or permit the use of any flue-fed or chute-fed single chamber incinerator on or after July 1, 1972. No person shall cause, suffer, allow or permit the use of any other incinerator on or after July 1, 1973 except as provided below:

   a. Incinerators that have a burning capacity greater than five tons (4540 kilograms) per hour and which are used to burn at least 20 tons (18100 kilograms) of refuse per day.

   burn

   b. Crematory and pathological incinerators that are used to burn type 4 wastes (according to I.I.A. Standards) or medical wastes.

   c. Specific by-product incinerators that are used to burn type 5 or 6 wastes (according to I.I.A. Standards) and which have a burning rate of at least one ton (907 kilograms) per hour and are used to burn at least two tons (1810 kilograms) per day of waste.

   d. Pathological incinerators that are used to burn medical wastes, provided that the units are approved for that purpose by the Department.

3. Householders are permitted to burn ordinary household trash (I.I.A. waste types 0 and 1 only) originating on the premises, in incinerators, in those areas where public collection of refuse is not provided.

4. Any incinerator, the use of which is prohibited under provisions of this section, shall be made inoperable in a manner approved by the Control Officer or the Department.

___06D Refuse Burning Prohibited in Certain Installations. No person shall burn refuse in any installation or equipment not specifically designed, constructed or modified for that purpose.

___06E Prohibition of Certain New Fuel Burning Equipment.

1. No person shall construct new fuel burning equipment designed for use of residual fuel oil in which any individual furnace has a heat input rate less than thirteen million BTU (13.8 gigajoules) per hour nor shall residual fuel oil be used at any time in any furnace having a heat input rate of less than thirteen million BTU (13.8 gigajoules) per hour.

2. No person shall construct new fuel burning equipment designed for use of solid fuels in which any individual furnace has a heat input rate of less than 250 million BTU (264 gigajoules) per hour nor shall solid fuels be used at any time in any furnace having a heat input rate of less than 250 million BTU (264 gigajoules) per hour.

3. No person shall construct fuel burning equipment designed to burn fuel oil with a rotary cup burner or replace a burner on fuel burning equipment with a rotary cup burner.

4. Exemptions. New fuel burning installations on ships shall be exempted from paragraph (1) of this subsection.

___06F Control of Sources of Fluoride Emissions.

1. No person shall cause, suffer, allow or permit the discharge into the atmosphere of fluorides from any installation in such combinations and in such amounts that any provision of the ambient air quality standards for fluorides set forth in 10.03.35.04E is contravened.

2. Surveillance

   a. Existing Installation Surveillance Program

   A person responsible for an installation discharging fluorides shall conduct a continuing environmental surveillance program, in a manner approved by the Department, to determine whether ambient air quality standards for fluorides are violated.

   b. New Installation Surveillance Program

   No "Permit to Construct" will be issued for any new potential source of fluoride emissions until the applicant has conducted a survey of background levels of fluoride in the environment in a manner and to an extent approved by the Department. Applicants for a "Permit to Operate" shall be subject to the requirements of ___06F2a.

   c. Reporting

   All data collected by the environmental programs and surveys of fluorides, required by this subsection, shall be maintained and made available to the Department in a manner and on a schedule approved by the Department. Such data shall be available to the public.

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d. Modification of Surveillance Programs

Any modification to the environmental programs and surveys required under this subsection, must be approved by the Department. Such modification may be initiated by the Department.

___06G Control and Prohibition of Sources of Photochemically Reactive Organic Materials

1. No person shall construct any source, or group of sources of the same Standard Industrial Classification Major Group, which after complying with all other applicable provisions of these regulations, will discharge to the atmosphere more than 550 lbs. (249 kilograms) per day of photochemically reactive organic materials.

2. No person shall cause, suffer, allow or permit the emission of photochemically reactive organic materials in any calendar month from any existing source or group of sources subject to the provisions of subsection .04J to exceed 1/12 of the total emission of photochemically reactive organic materials for the calendar year 1973, provided that such total emission was in excess of 100 tons (90,700 kilograms).

3. Specifically exempted from the requirements of paragraph (1) of this subsection is new construction associated with the relocation or complete replacement of existing sources subject to the provisions of subsection ___04J, provided that the emissions from such construction will not exceed those allowed the existing source under paragraph (2) of this subsection.

4. No person shall construct pumping or compressing equipment handling a photochemically reactive organic material unless the equipment is fitted with mechanical seals, or other sealing devices of equal or greater efficiency approved by the Department.

5. No person shall cause, suffer, allow or permit the use of any safety pressure relief valve, on equipment handling a photochemically reactive organic material at a pressure of 15 lbs. (103 KN/m^2) per square inch absolute or more unless the safety pressure relief valve is vented to a vapor recovery or incineration system, protected by a rupture disc, or is maintained by an inspection system approved by the Department.

___06I Definitions

(1) For the purpose of Sections G and H the phrase "lowest achievable emission rate" applied to any source means that rate of emissions which reflects:

(a) The most stringent emission limitation which is contained in the implementation plan of any state (approved and adopted pursuant to Section 110 of the Federal Clean Air Act) for this source or similar category of sources, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable; or

(b) The most stringent emission limitation which is achieved in practice by such source or similar category of source, whichever is more stringent. In no event shall the application of this term permit a proposed new or modified source to emit any pollutant in excess of the amount allowable under applicable new source standards of performance (Section 111 of the Federal Clean Air Act).

(2) For the purpose of Sections G and H, the phrase "reasonable further progress" means that emission reduction which, on an annual basis, is determined by the Department to be consistent with those total emission reductions required to meet the National Ambient Air Quality Standard for that pollutant as prescribed by the Clean Air Act Amendments of 1977 (42 U.S.C., Sections 7401-7642).

FOR FUEL BURNING EQUIPMENT

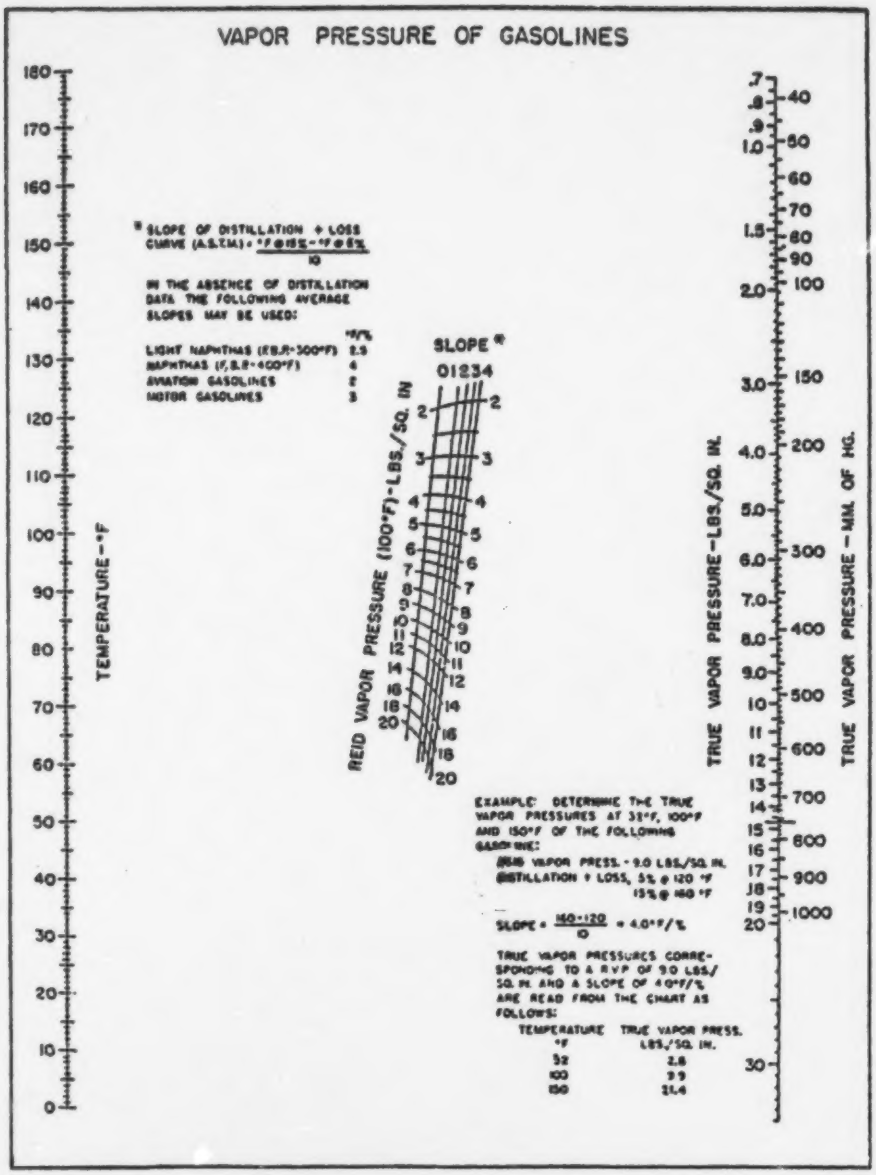
Equipment Description	Max. rated heat input in million BTU (gigajoules) per hour per furnace	Effective date of Standard	Max. Allowable emissions of part. matter-gr/SCFD (mg/dscm)	Max. Allowable Emissions; Shell Bacharach Smoke Spot Test # (b)
Residual oil burning up to 265 gigajoules	Less than 13(13.7) 13-50 (13.7-52.8) 50-250 (52.8-265)	Jan. 1, 1975 July 1, 1976 July 1, 1975	No requirement 0.03 (69) 0.020 (46)	4 4 4
Residual oil burning; existing and modified equipment	Greater than 250 (265)	July 1, 1975	0.020 (46)	4
Residual oil burning; new fuel burning equipment	Greater than 250 (265)	July 1, 1975	0.01 (23)	4
Distillate oil burning	All sizes	Oct. 1, 1972	No requirement	2
Solid fuel burning	250 (264) or less Greater than 250 (264)	July 1, 1975 Oct. 1, 1972	0.050 (114) 0.030 (69)	No requirement No requirement

(a) Construction of residual oil fired units of less than 13 million BTU (13.7 gigajoules) per hour prohibited (See .06E(1)).

(b) The method used shall be D-2156 as published by the American Society for Testing and Materials.

(c) Construction of solid fuel fired units of less than 250 million BTU (264 gigajoules) per hour prohibited (See .06 E (2).) Relates to Section .03.

Figure 1



* SLOPE OF DISTILLATION + LOSS CURVE (A.S.T.M.) = $\frac{°F @ 15\% - °F @ 5\%}{10}$

IN THE ABSENCE OF DISTILLATION DATA THE FOLLOWING AVERAGE SLOPES MAY BE USED:

	°F/%
LIGHT NAPHTHAS (E.B.P.=300°F)	2.5
NAPHTHAS (F.B.P.=400°F)	4
AVIATION GASOLINES	2
MOTOR GASOLINES	3

EXAMPLE: DETERMINE THE TRUE VAPOR PRESSURES AT 32°F, 100°F AND 150°F OF THE FOLLOWING GASOLINE:

REID VAPOR PRESS. = 9.0 LBS./SQ. IN.
DISTILLATION + LOSS, 5% @ 120 °F
15% @ 160 °F

SLOPE = $\frac{160-120}{10}$ = 4.0°F/%

TRUE VAPOR PRESSURES CORRESPONDING TO A R.V.P. OF 9.0 LBS./SQ. IN. AND A SLOPE OF 4.0°F/% ARE READ FROM THE CHART AS FOLLOWS:

TEMPERATURE °F	TRUE VAPOR PRESS. LBS./SQ. IN.
32	2.8
100	9.9
150	21.4

Reference: Coordinating Research Council (CRC) Handbook, PP. 244-254 (1946)

IV

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Table 1

Ambient Air Quality Standards

Pollutant	Frequency Times values may be exceeded per unit time	More Adverse Range ug/m^3 Lower Limit	More Adverse Range ug/m^3 Upper Limit	More Adverse Range ppm Lower Limit	More Adverse Range ppm Upper Limit	Serious Level ug/m^3	Serious Level ppm	Conversion Factor
1. Sulfur oxides (expressed as sulfur dioxide concentrations)								
Annual Arithmetic Average[1]	Values not to be exceeded	39	79	0.015	0.03	79	0.03	$\frac{ug/m^3}{2620}$ = ppm
Daily Average	Once per year	131	262	0.05	0.10	262	0.10	
One Hour Average	Once per month	262	525	0.10	0.20	525	0.20	
2. Particulate Matter a. Suspended Particulate								
Annual Arithmetic Average	Values not to be exceeded	65	75	-	-	75	-	
Daily Average	Once per year	140	160	-	-	160	-	

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Tabl ont'd

Pollutant	Frequency Times values may be exceeded per unit time	More Adverse Range		Serious Level		Conversion Factor
		Lower Limit	Upper Limit			
b. Dustfall		$mg/cm^2/month$		$mg/cm^2/month$		
Annual Arithmetic[1] Average	Values not to be exceeded	0.35	0.50	0.50		$\frac{mg/cm^2}{.035} = ton/mi^2$
Monthly Average	Values not to be exceeded	0.70	1.00	1.0		
3. Carbon Monoxide 8-Hour Arithmetic Average 2	Once per year	No standard		mg/m^3 10	ppm 9	$mg/m^3 \times 0.873 = ppm$
Hourly Average	Once per year	No standard		40	35	
4. Non-methane Hydrocarbons[3] 3-Hour Average[4]	Once per year	No standard		ug/m^3 160	ppm Carbon 0.24	$\frac{ug/m^3}{655} = ppm$
5. Photochemical Oxidants				ug/m^3	ppm Ozone	
Hourly Average	Once per year	No standard		160	0.08	$\frac{ug/m^3}{1960} = ppm$
6. Nitrogen Dioxide				ug/m^3	ppm	
Annual Arithmetic Average	Values not to be exceeded	No standard		100	0.05	$\frac{ug/m^3}{1882} = ppm$

References

for the calendar year for all pollutants

1. Annual averages shall be for the calendar year for all pollutants.

2. Applies in areas representing generalized atmospheric levels; 20 ppm applies in any other place where members of the public congregate for extended periods of time.

3. The standards set forth in this regulation for hydrocarbons are not based upon the direct adverse effects of hydrocarbons but upon an empirical relationship, based upon ambient air quality measurements, between morning hydrocarbon concentrations and oxidant concentrations occurring later the same day. The hydrocarbon standard is designed primarily to achieve the standard for photochemical oxidants. In view of the lack of an exact quantitative relationship, the uncertainties in existing measurement techniques and a lack of full identification of the photochemically reactive species of hydrocarbons occurring in the ambient air in the region, these levels should be considered as tentative pending further scientific developments.

4. Three hour period: 6 a.m. to 9 a.m. Eastern Standard Time.

MARYLAND STATE DEPARTMENT OF HEALTH AND MENTAL HYGIENE
301 West Preston Street
Baltimore, Maryland 21201

(As Amended through December 17, 1974)

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10.03.40 Regulations Governing the Control of Air Pollution in Area V †

Pursuant to the authority conferred upon the Secretary of Health and Mental Hygiene by Article 43, Annotated Code of Maryland, 1957 Edition, and Supplement, the following regulations governing the control of air pollution in Area II are hereby established as requirements of the Department of Health and Mental Hygiene.

___01 CONTROL AND PROHIBITION OF OPEN FIRES

___01A General. No person shall cause, suffer, allow or permit an open fire except as provided in section ___01B, ___01C, and ___01D.

___01B Control Officer May Authorize Certain Open Fires.

1. Subject to review by the Department, the Control Officer may, upon receipt of an application made on forms provided by the Department or local fire control agency, issue or approve a permit in writing allowing an open fire provided all of the following conditions are met:
    a. The Control Officer is satisfied that there is no practical alternate method to dispose of the material to be burned or to conduct the desired activities.
    b. No hazardous condition or air pollution or nuisance will be created.
    c. Fire control laws or regulations of other governmental agencies will not be violated.
    d. No materials which produce dense smoke when burned, including but not limited to tires and roofing material, will be burned.
    e. The material to be burned shall have originated on the premises on which it is to be burned.
2. The Control Officer may impose other conditions to minimize creation of smoke, to prevent nuisances and air pollution, and to protect the health, safety, comfort and property of any persons.

___01C Public Officer May Authorize Certain Fires.

Public officers, in the performance of their official duties, may set

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* Editor's note: Southern Maryland Area comprised of Calvert, Charles and St. Mary's Counties.

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an open fire or give permission for an open fire, with concurrence of the Control Officer, provided all reasonable means are employed to minimize smoke if the fire is necessary for one or more of the following reasons or purposes:

1. For the prevention of a fire hazard that cannot be abated by other means.
2. For the instruction of public fire fighters or industrial employees under supervision of the appropriate fire control official.
3. For the protection of public health or safety when other means for disposing of hazardous materials are not available.

___01D Allowed Open Fires. Open fires otherwise in conformance with other govermental fire control ordinances, provided no nuisance or air pollution is created, are allowed without permission as follows:

1. In those areas where no provision is made for public collection of leaves, the open burning of leaves originating on the premises by householders is permitted. On and after July 1, 1973, no leaves shall be burned at locations closer than 200 feet from any neighboring habitable dwelling or place where people work or congregate.
2. In those areas where no provision is made for public collection of refuse, burning of ordinary household trash (I.I.A. Waste types 0 and 1 only) originating on the premises, excluding commercial establishments, by householders is permitted provided that:
   a. Materials are not to be burned which create dense smoke emissions of greater than 40% opacity or darker in shade or appearance than designated as No. 2 on the Ringelmann Smoke Chart.
   b. On and after July 1, 1973, no refuse shall be burned at locations closer than 200 feet from any neighboring habitable dwelling or place where people work or congregate.
3. Cooking of Food.
4. Fires set in the course of agricultural operations in growing crops or raising fowl or animals or in accepted forestry practice. In no case shall this provision be construed as allowing the burning of ordinary household or barnyard trash in areas where provision is made for public collection of refuse.
5. Recreational purposes, such as campfires.
6. Oil or gas fired salamanders or similar devies designated spec-

ifically for space heating or warming of outdoor workers, etc., provided no visible emissions are created.

7. Warming fires for outdoor workers, providing smoke emissions are not darker in shade or appearance than those designated as No. 2 on the Ringelmann Smoke Chart or greater than 40% opacity, and the fires are located no closer than 200 feet from any neighboring habitable building.

___02 CONTROL AND PROHIBITION OF VISIBLE EMISSIONS

___02A For the purpose of these regulations:

1. "Existing installations or equipment" shall mean those erected prior to January 17, 1972.

2. "Modified installation or equipment" shall mean those altered, changed or added to on or after January 17, 1972.

3. "New Plant" shall mean any installation for which the major proportion of the fuel burning incineration, processing or manufacturing equipment in the installation was erected on or after January 17, 1972. This definition is not intended to apply to a "modified installation" where new control equipment is added to an existing installation. In questionable cases, the determination of new plants shall be made by the Department.

___02B Visible Emissions from New Plants. No person shall cause, suffer, allow or permit the discharge of emissions from any new plant of building other than water in an uncombined form, which are visible to human observers.

___02C Visible Emissions from Existing and Modified Installations.

1. Existing and Modified Bituminous Concrete Manufacturing Plants. No person shall cause, suffer, allow or permit the discharge of emissions from any existing or modified bituminous concrete manufacturing installation other than water in an uncombined form, which are visible to human observers.

2. Other Existing and Modified Installations. No person shall cause, suffer, allow or permit emissions from any other existing installation, modified installation or building that are darker in shade or appearance than that designated as No. 1 on the Ringelmann Smoke Chart.

___02D Exceptions.

1. Subsections ___02B and ___02C shall not apply to emissions during the building of a new fire, cleaning of fires, soot blowing, start-up and process modification or adjustment, or occasional cleaning of control equipment, in shade or appearance than that designated as No. 2 on the Ringelmann Smoke Chart or greater than 40% opacity for a period or periods aggregating no more than four minutes in any sixty minutes.

2. Any person who believes that meeting the requirements of subsection ___02B is not practical in a particular instance may request an exception to the requirements of subsection ___02B. Such a request shall be submitted to the Department in writing and include evidence to show why compliance is not practical. Upon the receipt of a request for an exception, the Department shall schedule a public hearing to be held within 60 days. The applicant for the exception shall, at least 30 days prior to the hearing date, prominently advertise the hearing by notice in a newspaper of general circulation in the Subdivision in which the facility or source for which the exception is sought is located. The notice shall include the name of the facility or source and such additional information as the Department may require. Based upon the evidence presented at the hearing the Secretary may grant an exception for a period not to exceed five years to subsection .02B under such other terms and conditions as are appropriate to reduce the impact of the exception.

3. Subsection ___02B shall not apply to emissions of the following:

   a. From the burning of wood in fireplaces on premises used for residential or recreational purposes;

   b. From open fires (except salamanders) permitted under provisions of subsections ___01B, ___01C and ___01D of this regulation.

4. The Control Officer may grant exceptions to ___02C above under the following conditions:

   a. When the application of ___02C to a residential building housing two or less families creates undue economic hardship on individuals residing therein, or

   b. When the installation's primary way of transferring heat is by the radiant method rather than a piped fluid system such as forced hot air, hydronic, or steam. Installations in this category would include stoves, room heaters, floor or wall mounted circulating heaters or similar devices.

02E Visible Emissions from Internal Combustion Engine Powered Equipment.

1. Definitions

   For the purpose of this regulation:

   a. "Internal Combustion Engine", hereafter referred to as "engine" shall mean all engines except those used for propulsion of ships or vehicles licensed to operate upon the public highways within the State, or engines employed solely for agricultural and recreational purposes unless it is an integral part of a stationary installation.

b. "Idle" shall mean the condition during which the engine is not performing useful net work to enable the piece of equipment to accomplish its designated purpose(s).

2. Emissions During Idle Mode

No person shall cause, suffer, allow or permit the discharge of emissions from any engine operating at idle of greater than (10%) opacity or darker in shade or appearance than that designated as No. 1/2 on the Ringelmann Smode Chart except for the allowable discharge of water in an uncombined form.

3. Emissions During Operating Mode

No person shall cause, suffer, allow or permit emissions from any engine, operating at other than idle conditions greater than (40%) opacity or darker in shade or appearance than that designated as No. 2 on the Ringelmann Smoke Chart.

4. Exceptions

a. Paragraph (2) above shall not apply for a period of two consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

b. Paragraph (2) above shall not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:

(1) Engines that are idled continuously when not in service: 30 minutes.

(2) All other engines: 15 minutes

c. Paragraphs (2) and (3) above shall not apply while maintenance, repair or testing is being performed by qualified mechanics.

5. Effective Date

The provisions of this subsection ___02E shall become effective January 1, 1975.

__02F Visible Emissions from Ships

No person or agent shall cause, suffer, allow or permit the discharge of emissions from any ship in excess of the following limits:

	OPERATING MODE	MAXIMUM OPACITY OR RINGELMANN CHART NO.	ALLOWABLE TIME
(1)	Underway, at berth or at anchor	20% - 1	No limit
(2)	Soot blowing		
	a. Within one mile of any shore while underway	--	No soot blowing allowed
	b. Within first or last 24 hours of arrival at or departure from any berth or anchor	--	No soot blowing allowed
	c. Any other 24 hour period	No limit	15 minutes for each boiler in operation provided that no nuisance is created.
(3)	Cleaning and adjusting of combustion equipment while at berth or anchor	40% - 2	Not to aggregate more than 4 minutes in any 60 minutes period.
(4)	Start up of cold boiler or engine	60% - 3 No limit	5 consecutive minutes; 10 consecutive minutes additional
(5)	Anchoring, berthing or other maneuvering requiring rapid changes in power	80% - 4	No limit.
(6)	Upset/breakdown, emergency/casualty or Coast Guard safety tests	No limit	No limit. The control officer shall be notified as to the reason for the excessive emissions.
(7)	Docktrials of new or rebuilt boilers or engines.	No limit	No limit provided no nuisance is created and the control officer has been notified before 3:00 p.m. the day before the docktrials are to be conducted.

___03 CONTROL AND PROHIBITION OF PARTICULATE MATTER EMISSIONS

___03A General Conditions. All calculations of particulate matter emissions shall be made in terms of grains per standard cubic foot dry exhaust gas (gr/SCFD).

1. For fuel burning equipment calculations shall be corrected to 50% excess air.

2. For incineration plants and installations calculations shall be corrected to 12% carbon dioxide and as if no auxiliary fuel has been used.

___03B Control of Particulate Matter from Fuel Burning Plants and Installations.

1. General Conditions for Fuel Burning Equipment.

    a. When two or more fuel burning equipment units are connected to a single stack, the combined heat input of all units connected to the stack shall be used to determine the allowable emissions from all the stacks combined shall not exceed that allowable for the same unit if connected to a single stack.

    b. When a single fuel burning equipment units is connected to two or more stacks, the allowable emissions from all the stacks combined shall not exceed that allowable for the same unit if connected to a single stack.

2. New Fuel Burning Equipment.

    a. No person shall cause, suffer, allow or permit particulate matter caused by the combustion of fuel oil in any fuel burning equipment erected after January 17, 1972 to be discharged into the atmosphere in excess of the amounts shown in Table 1.

    b. No person shall cause, suffer, allow or permit particulate matter caused by combustion of solid fuel in any fuel burning equipment erected after January 17, 1972 to be discharged into the atmosphere in excess of the amounts shown in Table 1.

    c. Dust Collecting Devices Required on New Fuel Burning Equipment.

        (1) No person shall cause, suffer, allow or permit the combustion of residual oil in any fuel burning equipment erected after January 17, 1972 with a maximum

heat input of 13 x 10^6 BTU/hour or more unless such equipment is fitted with a dust collector, which is so designed that it can reasonably be expected to produce sufficient dust particle force, residence time and particle retention to satisfy the requirements of Table 1.

(2) No person shall cause, suffer, allow or permit the combustion of solid fuel in any fuel burning equipment erected after January 17, 1972 unless such equipment is fitted with a dust collector which is so designed that it can reasonably be expected to produce sufficient dust particle force, residence time and particle retention to satisfy the requirements of Table 1.

3. Existing and Modified Fuel Burning Equipment

No person shall cause, suffer, allow or permit particulate matter caused by the combustion of fuel in any fuel burning equipment existing or modified before January 17, 1972 to be discharged from any stack or chimney into the atmosphere in excess of the hourly rate set forth in the following table.

Heat input in Million BTU per hour	Maximum Allowable Discharge of Particulate Matter in Pounds per million BTU from Existing and Modified Fuel Burning Installations
Up to and including 10	0.60
10,000 and greater	0.12

For a heat input between the heat inputs stated in the preceding table, maximum allowable discharge of particulate matter is shown for existing and modified fuel burning equipment on Figure 1. For the purposes hereof, heat input shall be calculated as the aggregate heat content of all fuels whose products of combustion pass through the stack or chimney.

4. Exceptions.

a. Interruptible Gas Service. Fuel burning equipment burning gas with an interruptible gas service shall be exempt from the provisions of paragraphs .03B(2) and .03B(3).

b. The Control Officer may grant exceptions to ___03B3 above under the following conditions:

(1) When the application of subsection ___03B3 to a residential building housing two or less families creates undue economic hardship on individuals residing therein, or

(2) When the equipment's primary way of transferring heat is by the radiant method rather than a piped fluid system such as forced hot air, hydronic, or steam. Equipment in this category would include stoves, room heaters, floor or wall mounted circulating heaters, fireplaces or similar devices.

c. Fuel burning installations on ships shall be exempted from the provisions of Section .03.

___03C Particulate Matter from Incineration Plants and Installations.

1. New Incineration Plants.

a. No person shall cause, suffer, allow or permit to be discharged into the atmosphere particulate matter to exceed 0.10 gr/SCFD from any new incineration plant "other than pathological" that has a burning capacity less than one ton of refuse per hour and is used to burn less than one ton of refuse per hour and is used to burn less than five tons of refuse per day.

b. No person shall cause, suffer, allow or permit to be discharged into the atmosphere particulate matter to exceed 0.03 gr/SCFD from any new incineration plant that has a burning capacity equal to or greater than one ton of refuse per hour or is used to burn five tons or more of refuse per day.

c. No person shall cause, suffer, allow or permit to be discharged into the atmosphere particulate matter to exceed 0.03 gr/SCFD from any new pathological incineration plant. Medical waste may be burned in such units, provided that the unit has been approved for that purpose by the Department.

2. Existing and Modified Incineration Installations. No person shall cause, suffer, allow or permit to be discharged into the outdoor atmosphere from any existing or modified incinerator the following:

a. From any existing or modified incinerator burning less than 200 pounds of refuse per hour, particulate matter to exceed 0.3 gr/SCFD.

b. From any existing or modified incinerator burning 200 or more pounds of refuse per hour, particulate matter exceed 0.2 gr/SCFD.

___03D Particulate Matter from Agricultural Operations.

2. Control of Orchard Heaters.

General. No person shall cause, suffer, allow or permit to be used any type of orchard heater or other such frost control device which discharges into the atmosphere more than one gram per minute of unconsumed carbonaceous matter.

___03E Particulate Matter from Other Plants and Installations.

1. Other New Plant.[7]

a. No person shall cause, suffer, allow or permit to be discharged into the outdoor atmosphere from any other new process plant, particulate matter in excess of 0.03 gr/SCFD.

b. The maximum allowable weight of particulate matter discharged per hour from any other new process plant shall not exceed that determined from Table 2. Where the process weight per hour falls between two values in the table, the maximum weight discharged per hour shall be determined by linear interpolation. When the process weight exceeds 60,000 pounds per hour, the maximum allowable weight discharged per hour will be determined by the use of the following equation:

$$E = 55.0\,P^{0.11} - 40$$

Where E = Maximum weight discharged per hour (lbs.)
P = Process weight rate in tons per hour

This limitation shall supersede the requirements of section ___030E1a if it requires a lower emission rate per hour.

2. Other Existing and Modified Process Installations.

a. Existing and Modified Bituminous Concrete Manufacturing Installations. No person shall cause, suffer, allow or permit to be discharged into the atmosphere from any existing or modified bituminous concrete manufacturing installation particulate matter in excess of 0.03 gr/SCFD.

b. Other Existing and Modified Installations. [3]

(1) The maximum allowable weight of particulate matter discharged per hour from any other existing or modified process installation shall not exceed that determined from Table 2. Where the process weight per hour falls between two values in the table, the maximum weight discharged per hour shall be determined by linear interpolation. When the process weight exceeds 60,000 pounds per hour, the maximum allowable weight discharged per hour will be determined by use of the following equation:

$$E = 55.0\,P^{0.11} - 40$$

Where E = Maximum weight discharged per hour (lbs.)
P = Process weight rate in tons per hour

(2) For those processes in which the process weight per hour exceeds 60,000 pounds, the maximum allowable weight of particulate matter discharged per hour may exceed that calculated by the above equation providing that the concentration of particulate matter in the gases discharged to the atmosphere is less than 0.05 gr/SCFD.

___03F Particulate Matter From Materials Handling and Construction and Other Acts.

1. No person shall cause, suffer, allow or permit any material to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when appropriate as determined by the Control Officer, but not be limited to the following:

   a. Use of water of chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;

   b. Application of asphalt, oil, water or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts;

   c. Installation and use of hoods, fans and dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operation;

   d. Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution. Alternate means may be employed to achieve the same results as would covering;

   e. The paving of roadways and their maintenance in a clean condition;

   f. The prompt removal from paved streets of earth or other material which has been transported thereto by trucks or earth moving equipment or erosion by water.

2. No person shall cause, suffer, allow or permit visible emissions beyond the lot line of the property on which the emissions originate.

___04 CONTROL AND PROHIBITION OF GAS, VAPOR AND ODOR EMISSIONS

___04A General.

1. Odors. No person shall cause, suffer, allow or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.

2. General Conditions. All calculations of emissions governed by ___04C shall be adjusted to standard conditions. PPM shall mean parts per million by volume.

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___04B Sulfur Oxides from the Burning of Fuel. No person shall burn, sell or make available for sale any fuel unless the following conditions are met:

(1) The combustion of all solid fuels on a premise where the sum total maximum rated heat input of all fuel burning equipment located on the premise is 100 million BTU per hour or greater shall not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million BTU actual heat input per hour.

(2) On and after July 1, 1975, residual fuel oil, 2.0 percent.

(3) Distillate fuel oils, 0.3 percent to July 1, 1980.

(4) Process gas used as a fuel shall contain not more than 0.3% sulfur by weight.

___04C Sulfur Compounds from Other than Fuel Burning Installations.

1. No person shall cause, suffer, allow or permit the discharge into the atmosphere from installations other than fuel burning installations of gases containing more than 500 ppm of sulfur dioxide. Such installations constructed prior to January 17, 1972 shall be limited to not more than 2,000 ppm sulfur dioxide.

2. No person shall cause, suffer, allow or permit the discharge into the atmosphere from installations other than fuel burning installations of gases containing sulfuric acid, sulfur trioxide, or any combination thereof greater than 35 milligrams per cubic meter reported as sulfuric acid. Such installations constructed prior to January 17, 1972 shall be limited to not more than 70 milligrams per cubic meter of sulfuric acid, sulfur trioxide or any combination thereof reported as sulfuric acid.

3. No person shall cause, suffer, allow or permit the discharge of a process gas containing hydrogen sulfide into the atmosphere from a petroleum refinery unless the gas stream is burned in an afterburner at 1300°F for not less than 0.3 seconds or in an equivalent device approved by the Department.

4. No person shall cause, suffer, allow or permit the discharge of process gas containing more than 0.1 gr/SCFD hydrogen sulfide into a petroleum refinery, afterburner or gas collection system connected to an afterburner.

5. No person shall construct equipment such as pumping or compressing equipment handling a hydrogen sulfide-bearing material in petroleum refinery unless the equipment is fitted with mechanical seals, or other sealing devices with equal or greater efficiency approved by the Department.

6. No person shall cause, suffer, allow or permit the use of any safety pressure relief valve on equipment handling hydrogen sulfide-bearing materials in a petroleum refinery at a pressure of 15 lbs. per square inch absolute unless the safety pressure relief valve is vented to a vapor recovery or incineration system, protected by a rupture disc, or is maintained by an inspection system approved by the Department.

___04D Exceptions.

1. Fuels containing sulfur in excess of the amounts specified in ___04B may be burned, sold, or made available for sale provided control equipment to desulfurize stack gases has been installed or other methods or devices are employed by the user or purchaser such that the discharge of sulfur dioxide to the atmosphere does not exceed 0.5 pounds per million BTU of heat input to the associated installation in which such fuel is burned.

2. The Secretary may authorize the operation of a scavenger or recovery plant to reclaim sulfur compounds which would otherwise be discharged into the air provided the operation of such a scavenger or recovery plant would reduce total discharge of sulfur compounds at least 95% with said plant in operation compared to discharge when the aforementioned plant is not operating. Such authorization may result in discharge of sulfur compounds whose concentration exceed those permitted by subsections 1 and 2 of ___04C. This subsection shall not apply to sulfuric acid manufacturing operations.

3. Fuel burning installations on ships and the sale of fuel for such installations shall be exempt from the provisions of this section pertaining to the burning of fuel of specified sulfur content.

4. Paragraphs .04C(3) and .04C(4) shall not apply to the combustion of process upset gas in a flare, or the combustion in a flare of process gas or fuel gas released to the flare as a result of relief valve leakage.

___04E Request for Analysis. Any person offering to sell or deliver fuel or any person responsible for installations in which fuel or process gas is burned shall, upon request, submit to the Department or the Control Officer such analyses of the fuel or process gas as may be required to determine compliance with this section.

(50.6) ___04F Control of Odors from the Reduction of Offal.

1. No person shall cause, suffer, allow or permit the use of an installation primarily engaged in the reduction of offal unless all gases, vapors and gas-entrained matter from said installation are:

   a. First cooled to a temperature of not greater than 160°F and then

   b. The non-condensible fraction is incinerated at a termperature of not less than 1400°F for a period of not less than 0.4 seconds.

   c. Alternate methods may be used if determined by the Department to be equally or more effective for the purpose of controlling air pollution,

2. Any person processing or incinerating gases, vapors or gas-entrained matter as required by subsection ___04F1 shall when ordered by the Department install, operate and maintain in good working order and calibration, continuous recording devices for indicating temperature or pressure or other operating conditions. Such devices shall be approved by the Department and all data collected shall when ordered by the Department be made available to the Department or the Control Officer for inspection or copying. Such data shall be kept on file by responsible persons for at least 60 days.

3. No person shall cause, suffer, allow or permit any offal to be handled, transported or stored or to undertake the preparation of any offal without taking reasonable precautions to prevent odors from being discharged. Such reasonable precautions, when approved by the Department, shall include but not be limited to the following:

   a. Storage of all offal prior to or in the process of preparation in properly enclosed and vented equipment or areas, together with the use of effective devices and/or

methods to prevent the discharge of odors or odor bearing gases.

b. Use of covered vehicles of watertight construction for the handling and transporting of offal.

c. Use of hoods and fans to enclose and vent the storage, handling, preparation and conveying of any odorous materials together with effective devices and/or methods to prevent emission of odors or odor bearing gases.

4. Whenever the emissions from an installation primarily engaged in the reduction of offal create a nuisance or air pollution, beyond the property line, the Department may require that the building in which such installation is located be tightly closed and vented so that all emissions are treated by incineration or by other methods if determined by the Department to be equally or more effective for the purpose of controlling emissions.

5. The requirements of this subsection ___04F shall not apply to any installation engaged exclusively in the processing of food for human consumption.

___04G Nitrogen Oxides From New Fuel Burning Equipment.[11]

a. No person shall cause, suffer, allow or permit the discharge of nitrogen oxides into the atmosphere, from any fuel burning equipment built after May 12, 1972 having a heat input rating of 250 million British Thermal Units (BTU) per hour, or more, in excess of the following rates:

(1) 0.20 pounds per million BTU heat input, maximum two hour average, expressed as NO_2 when gaseous fuel is burned.

(2) 0.30 pounds per million BTU heat input, maximum two hour average, expressed as NO_2 when liquid fuel is burned.

(3) 0.50 pounds per million BTU heat input, maximum two hour average, expressed as NO_2 when solid fuel is burned.

b. Exceptions. Burl burning installations on ships shall be exempt from the provision of this subsection.

___04H Nitrogen Oxides from Nitric Acid Plants.

No person shall cause, suffer, allow or permit the discharge into the atmosphere from any nitric acid plant, nitrogen oxides in excess of 3.0 pounds per ton of acid (100 percent basis) produced.

.04I Reserved

.04J Hydrocarbons From Other than Fuel Burning Equipment

1. Definitions for purposes of these regulations:

   a. "Organic Material" shall mean chemical compounds of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbonates, metallic carbides and ammonium carbonates.

   b. "True Vapor Pressure" shall mean the absolute pressure in pounds per square inch determined at storage conditions. Storage conditions shall be taken as the average monthly temperature. If the storage is subject to solar and ambient heat gain only, the temperature shall be taken as the average monthly temperature, to a maximum average of 78°F (average storage temperature for May through September). True vapor pressure shall be determined by measurement at the storage conditions or by the use of a nemograph, published by the Coordinating Research Council and included with these regulations as Figure 3, relating true vapor pressure to Reid vapor pressure and storage temperature.

2. Organic Material

   a. After July 1, 1974, no person shall cause, suffer, allow or permit organic material having a true vapor pressure in the range of 1.5 to 11 psi inclusive to be placed, stored or held in any new stationary tank reservoir with a capacity of greater than 40,000 gallons unless the tank is equipped with one or more of the following organic material vapor control devices, properly installed, well-maintained and in operating condition.

      (1) A floating roof resting on the surface of the liquid contents equipped with a closure seal, or seals, to close the space between the roof edge and tank wall, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

      (2) A pressure tank system maintaining a pressure at all times so as to prevent organic material loss to the atmosphere, or

      (3) A vapor recovery system capable of collecting the organic materials emitted from the tank and disposing of these emissions so as to prevent their emission to the atmosphere and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(4) Other equipment equal or greater in efficiency to those devices listed above, and approved by the Department.

b. After July 1, 1974 no person shall cause, suffer, allow or permit organic materials having a true vapor pressure greater than 11 psi to be placed, stored or held in any new stationary tank reservoir with a capacity greater than 40,000 gallons unless equipped with one of the following organic material vapor control devices properly installed, well-maintained and in operating condition:

(1) A pressure tank system maintaining a pressure at all times so as to prevent organic material loss to the atmosphere, or

(2) A vapor recovery system capable of collecting the organic materials emitted from the tank and disposing of these emissions so as to prevent their emission to the atmosphere, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(3) Other equipment equal or greater in efficiency to those devices listed above, and approved by the Department.

___04K Use of Waste Oils as Fuel

1. No person shall burn, sell, or make available for use as fuel in any installation any waste oil including but not limited to, used petroleum products, crank case draining, cutting oils, vegetable oils, or combustible fluids salvaged from any automotive or industrial use without obtaining the prior approval of the Department.

2. Any person desiring to use waste oil as a fuel in any installation shall, prior to the use thereof, submit to the Department such information and analysis as the Department may require.

3. After consideration of the information submitted by a prospective user of waste oil the Department shall enter an Order approving or disallowing the use of such fuel or approving its use with such conditions as the Department finds necessary. In the event the Department shall disapprove or condition the use of such fuel a person aggrieved by the Order may request a hearing within 10 days after receipt of the Order. Where a hearing is requested, it shall be held pursuant to Article 43, Section 698(c) (d) of the Annotated Code of Maryland:

___05 RESERVED

___06 CONTROL AND PROHIBITION OF INSTALLATIONS AND OPERATIONS

___06A General. No installation or premise shall be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation shall in any manner be construed as authorizing or permitting the creation of or maintenance of a nuisance or air pollution.

___06B Circumvention. No person shall install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total weight of emissions, conceals or dilutes an emission which would otherwise constitute a violation of any applicable air pollution control regulation.

___06C Refuse Burning Prohibited in Certain Installations. No person shall burn refuse in any plant, installation or equipment not specifically designed, constructed or modified for that purpose.

___06D Prohibition of Certain New Fuel Burning Equipment.

1. No person shall contruct a new fuel burning equipment designed for use of residual fuel oil in which any individual furnace has a

rated heat input of less than five million BTU per hour nor shall residual fuel oil be used at any time in any new fuel burning equipment having a rated heat input of less than thirteen million BTU per hour.

2. No person shall construct a new fuel burning equipment designed for use of a solid fuel in which any individual furnace has a rated heat input of less than 150 million BTU per hour nor shall a solid fuel be used at any time in any new fuel burning equipment having a rated heat input of less than 150 million BTU per hour.

3. No person shall construct fuel burning equipment fitted with a rotary cup burner or replace a burner with a rotary cup burner.

___06E Control of Sources of Fluoride Emissions.

1. No person shall cause, suffer, allow or permit the discharge into the atmosphere of fluorides from any installation in such combinations and in such amounts that any provision of the ambient air quality standards for fluorides set forth in 10.03.35.04E is controvened.

2. Surveillance

   a. Existing Installation Surveillance Program.

      A person responsible for an installation discharging fluorides shall conduct a continuing environmental surveillance program, in a manner approved by the Department, to determine whether ambient air quality standards for fluorides are violated.

   b. New Installation Surveillance Program.

      No "Permit to Construct" will be issued for any new potential source of fluoride emissions until the applicant has conducted a survey of background levels of fluoride in the environment in a manner and to an extent approved by the Department. Applicants for a "Permit to Operate" shall be subject to the requirements of ___06E2a.

   c. Reporting.

      All data collected by the environmental programs and surveys of fluorides, required by this subsection, shall be maintained and made available to the Department in a manner and on a schedule approved by the Department. Such data shall be available to the public.

   d. Modification of Surveillance Programs.

      Any modification to the environmental programs and surveys, required under this subsection, must be approved by the Department. Such modification may be initiated by the Department.

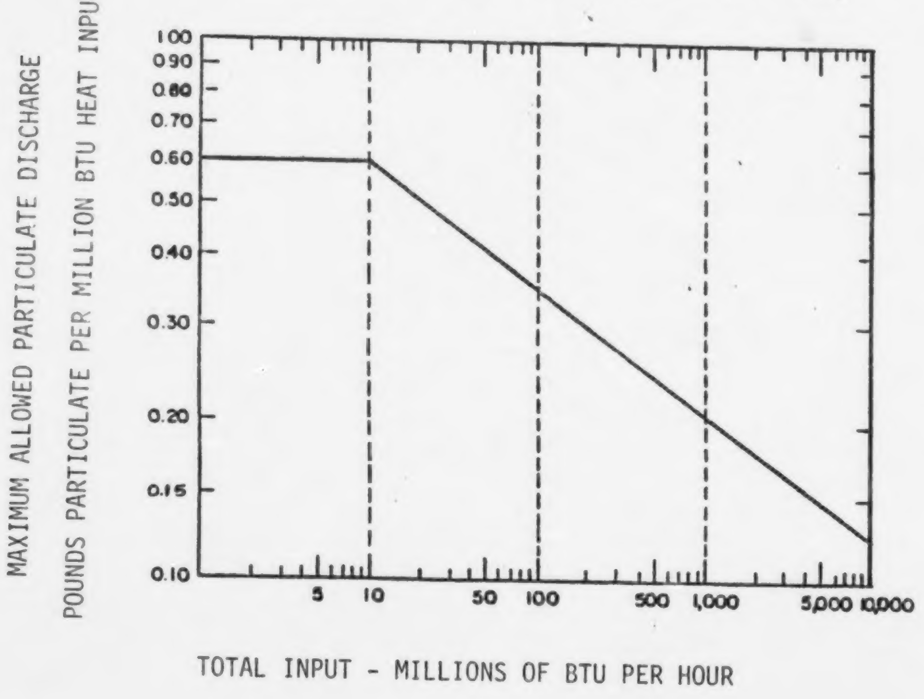
____07 TRANSITION FROM PREVIOUS REGULATIONS

____07A Previous Plans for Compliance. All plans for compliance with regulations 43P03 as it became effective on January 28, 1969, which have been approved by the Secretary shall be evaluated by the Department. Any part of such plans which the Department determines relate to an installation which is subject to more restrictive emission control requirements under the terms of this amended regulation 10.30.37, as compared to the respective requirements of regulation 43P03 as it became effective on January 28, 1969, will be null and void. If a plan for compliance is declared null and void, an amended plan may be submitted to the Department.

____07B Previous Regulations Remain in Effect in Certain Cases. Provisions of regulation 43P03 as adopted on January 28, 1969 shall remain in effect with regard to installations, plants and matters dealt with in these amendments until the effective dates provided for by these amendments are applicable to the respective plants, installations or matters.

MAXIMUM ALLOWED DISCHARGE OF PARTICULATE MATTER FROM EXISTING AND MODIFIED FUEL BURNING EQUIPMENT

(Installation built before January 17, 1972)



EMISSION STANDARDS AND DUST COLLECTOR PERFORMANCE STANDARDS FOR NEW FUEL BURNING EQUIPMENT

(Equipment Built on or After January 17, 1972)

Equipment Description	Maximum rated heat input in million BTU per hour per furnace	Effective Date of Standard	Max. allowable emissions of part. matter - gr/SCFD	Max. allowable emission; Shell Bacharach Smoke Spot test number (b)	Required collection efficiency of dust collector (c)
Residual oil burning (a)	Less than 13	Jan. 1, 1975	No requirement	4	No requirement
	13 - 50	Oct. 1, 1972	0.025	4	60% or more
	> 50 - 250	Oct. 1, 1974	0.020	4	70% or more
	greater than 250	Jan. 17, 1972	0.010	4	80% or more
Distillate oil burning	All sizes	Jan. 17, 1972	No requirement	2	No requirement
Solid fuel burning	All sizes (d)	Jan. 17, 1972	0.030	No requirement	99% or more

(a) Construction of residual oil fired units of less than 13 million BTU per hour prohibited (See __.06D(1).)

(b) The method used shall be D-2156 as published by the American Society for Testing and Materials.

(c) Collection efficiencies for residual oil burning units determined assuming a minimum inlet grain loading of 0.06 gr/SCFD.

(d) Construction of solid fuel fired units of less than 50 million BTU per hour prohibited (See __.06D(2).)

Relates to section .03.

Table 2

MAXIMUM ALLOWABLE WEIGHT OF PARTICULATE MATTER DISCHARGED PER HOUR

Process Wt/hr (lbs)	Maximum Weight Disch/hr (lbs)	Process Wt/hr (lbs)	Maximum Weight Disch/hr (lbs)	Process Wt/hr (lbs)	Maximum Weight Disch/hr (lbs)
50 or less	0.24	1900	4.03	4700	6.45
100	0.46	2000	4.14	4800	6.52
150	0.66	2100	4.24	4900	6.60
200	0.85	2200	4.34	5000	6.67
250	1.03	2300	4.44	5500	7.03
300	1.20	2400	4.55	6000	7.37
350	1.35	2500	4.64	6500	7.71
400	1.50	2600	4.74	7000	8.05
450	1.63	2700	4.84	7500	8.39
500	1.77	2800	4.92	8000	8.71
550	1.89	2900	5.02	8500	9.03
600	2.01	3000	5.10	9000	9.36
650	2.12	3100	5.18	9500	9.67
700	2.24	3200	5.27	10000	10.00
750	2.34	3300	5.36	11000	10.63
800	2.43	3400	5.44	12000	11.28
850	2.53	3500	5.52	13000	11.89
900	2.62	3600	5.61	14000	12.50
950	2.72	3700	5.69	15000	13.13
1000	2.80	3800	5.77	16000	13.74
1100	2.97	3900	5.85	17000	14.36
1200	3.12	4000	5.93	18000	14.97
1300	3.26	4100	6.01	19000	15.58
1400	3.40	4200	6.08	20000	16.19
1500	3.54	4300	6.15	30000	22.22
1600	3.66	4400	6.22	40000	28.30
1700	3.79	4500	6.30	50000	34.30
1800	3.91	4600	6.37	60000	40.00
				*	
				**	

Relates to ___03E

* For New Plants, process weight in excess governed by equation presented in 10.03.40 03E1b.

** For Modified and Existing Installations, process weight in excess governed by 10.03.40 03E2b.

Table 3

Ambient Air Quality Standards

Pollutant	Frequency Times values may be exceeded per unit time	More Adverse Range				Serious Level		Conversion Factor
		ug/m^3		ppm		ug/m^3	ppm	
		Lower Limit	Upper Limit	Lower Limit	Upper Limit			
1. Sulfur oxides (expressed as sulfur dioxide concentrations)								
Annual Arithmetic Average[1]	Values not to be exceeded	39	79	0.015	0.03	79	0.03	$\frac{ug/m^3}{2620} = ppm$
Daily Average	Once per year	131	262	0.05	0.10	262	0.10	
One Hour Average	Once per month	262	525	0.10	0.20	525	0.20	
2. Particulate Matter a. Suspended Particulate								
Annual Arithmetic Average	Values not to be exceeded	65	75	-	-	75	-	
Daily Average	Once per year	140	160	-	-	160	-	

Table ont'd

Pollutant	Frequency Times values may be exceeded per unit time	More Adverse Range Lower Limit	 Upper Limit	Serious Level		Conversion Factor
b. Dustfall		mg/cm^2/month		mg/cm^2/month		
Annual Arithmetic Average	Values not to be exceeded	0.35	0.50	0.50		$\frac{mg/cm^2}{.035}$ = ton/mi^2
Monthly Average	Values not to be exceeded	0.70	1.00	1.0		
3. Carbon Monoxide 8-Hour Arithmetic Average 2				mg/m^3	ppm	
	Once per year	No standard		10	9	mg/m^3 x 0.873 = ppm
Hourly Average	Once per year	No standard		40	35	
4. Non-methane Hydrocarbons[3] 3-Hour Average[4]	Once per year	No standard		$\frac{ug/m^3}{160}$	$\frac{ppm\ Carbon}{0.24}$	$\frac{ug/m^3}{655}$ = ppm
5. Photochemical Oxidants				ug/m^3	ppm Ozone	
Hourly Average	Once per year	No standard		160	0.08	$\frac{ug/m^3}{1960}$ = ppm
6. Nitrogen Dioxide				ug/m^3	ppm	
Annual Arithmetic Average	Values not to be exceeded	No standard		100	0.05	$\frac{ug/m^3}{1882}$ = ppm

References

1. Annual averages shall be for the calendar year for all pollutants.

2. Applies in areas representing generalized atmospheric levels; 20 ppm applies in any other place where members of the public congregate for extended periods of time.

3. The standards set forth in this regulation for hydrocarbons are not based upon the direct adverse effects of hydrocarbons but upon an empirical relationship, based upon ambient air quality measurements, between morning hydrocarbon concentrations and oxidant concentrations occurring later the same day. The hydrocarbon standard is designed primarily to achieve the standard for photochemical oxidants. In view of the lack of an exact quantitative relationship, the uncertainties in existing measurement techniques and a lack of full identification of the photochemically reactive species of hydrocarbons occurring in the ambient air in the region, these levels should be considered as tentative pending further scientific developments.

4. Three hour period: 6 a.m. to 9 a.m. Eastern Standard Time.

MARYLAND STATE DEPARTMENT OF HEALTH AND MENTAL HYGIENE
301 West Preston Street
Baltimore, Maryland 21201

(As Amended through December 17, 1974)

10.03.41 Regulations Governing the Control of Air Pollution in Area II†

Pursuant to the authority conferred upon the Secretary of Health and Mental Hygiene by Article 43, Annotated Code of Maryland, 1957 Edition, and Supplement, the following regulations governing the control of air pollution in Area II are hereby established as requirements of the Department of Health and Mental Hygiene.

___01 CONTROL AND PROHIBITION OF OPEN FIRES

___01A General. No person shall cause, suffer, allow or permit an open fire except as provided in section ___01B, ___01C, and ___01D.

___01B Control Officer May Authorize Certain Open Fires.

1. Subject to review by the Department, the Control Officer may, upon receipt of an application made on forms provided by the Department or local fire control agency, issue or approve a permit in writing allowing an open fire provided all of the following conditions are met:
   a. The Control Officer is satisfied that there is no practical alternate method to dispose of the material to be burned or to conduct the desired activities.
   b. No hazardous condition or air pollution or nuisance will be created.
   c. Fire control laws or regulations of other governmental agencies will not be violated.
   d. No materials which produce dense smoke when burned, including but not limited to tires and roofing material, will be burned.
   e. The material to be burned shall have originated on the premises on which it is to be burned.
2. The Control Officer may impose other conditions to minimize creation of smoke, to prevent nuisances and air pollution, and to protect the health, safety, comfort and property of any persons.

___01C Public Officer May Authorize Certain Fires.

Public officers, in the performance of their official duties, may set

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*Editor's note: Eastern Shore Area comprised of Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, Worcester Counties.

an open fire or give permission for an open fire, with concurrence of the Control Officer, provided all reasonable means are employed to minimize smoke if the fire is necessary for one or more of the following reasons or purposes:

1. For the prevention of a fire hazard that cannot be abated by other means.

2. For the instruction of public fire fighters or industrial employees under supervision of the appropriate fire control official.

3. For the protection of public health or safety when other means for disposing of hazardous materials are not available.

___01D Allowed Open Fires. Open fires otherwise in conformance with other govermental fire control ordinances, provided no nuisance or air pollution is created, are allowed without permission as follows:

1. In those areas where no provision is made for public collection of leaves, the open burning of leaves originating on the premises by householders is permitted. On and after July 1, 1973, no leaves shall be burned at locations closer than 200 feet from any neighboring habitable dwelling or place where people work or congregate.

2. In those areas where no provision is made for public collection of refuse, burning of ordinary household trash (I.I.A. Waste types 0 and 1 only) originating on the premises, excluding commercial establishments, by householders is permitted provided that:

    a. Materials are not to be burned which create dense smoke emissions of greater than 40% opacity or darker in shade or appearance than designated as No. 2 on the Ringelmann Smoke Chart.

    b. On and after July 1, 1973, no refuse shall be burned at locations closer than 200 feet from any neighboring habitable dwelling or place where people work or congregate.

3. Cooking of Food.

4. Fires set in the course of agricultural operations in growing crops or raising fowl or animals or in accepted forestry practice. In no case shall this provision be construed as allowing the burning of ordinary household or barnyard trash in areas where provision is made for public collection of refuse.

5. Recreational purposes, such as campfires.

6. Oil or gas fired salamanders or similar devies designated spec-

ifically for space heating or warming of outdoor workers, etc., provided no visible emissions are created.

7. Warming fires for outdoor workers, providing smoke emissions are not darker in shade or appearance than those designated as No. 2 on the Ringelmann Smoke Chart or greater than 40% opacity, and the fires are located no closer than 200 feet from any neighboring habitable building.

___02 CONTROL AND PROHIBITION OF VISIBLE EMISSIONS

___02A For the purpose of these regulations:

1. "Existing installations or equipment" shall mean those erected prior to January 17, 1972.

2. "Modified installation or equipment" shall mean those altered, changed or added to on or after January 17, 1972.

3. "New Plant" shall mean any installation for which the major proportion of the fuel burning incineration, processing or manufacturing equipment in the installation was erected on or after January 17, 1972. This definition is not intended to apply to a "modified installation" where new control equipment is added to an existing installation. In questionable cases, the determination of new plants shall be made by the Department.

___02B Visible Emissions from New Plants. No person shall cause, suffer, allow or permit the discharge of emissions from any new plant of building other than water in an uncombined form, which are visible to human observers.

___02C Visible Emissions from Existing and Modified Installations.

1. Existing and Modified Bituminous Concrete Manufacturing Plants. No person shall cause, suffer, allow or permit the discharge of emissions from any existing or modified bituminous concrete manufacturing installation other than water in an uncombined form, which are visible to human observers.

2. Other Existing and Modified Installations. No person shall cause, suffer, allow or permit emissions from any other existing installation, modified installation or building that are darker in shade or appearance than that designated as No. 1 on the Ringelmann Smoke Chart.

___020 Exceptions.

1. Subsections ___02B and ___02C shall not apply to emissions during the building of a new fire, cleaning of fires, soot blowing, start-up and process modification or adjustment, or occasional cleaning of control equipment, in shade or appearance than that designated as No. 2 on the Ringelmann Smoke Chart or greater than 40% opacity for a period or periods aggregating no more than four minutes in any sixty minutes.

2. Any person who believes that meeting the requirements of subsection ___02B is not practical in a particular instance may request an exception to the requirements of subsection ___02B. Such a request shall be submitted to the Department in writing and include evidence to show why compliance is not practical. Upon the receipt of a request for an exception, the Department shall schedule a public hearing to be held within 60 days. The applicant for the exception shall, at least 30 days prior to the hearing date, prominently advertise the hearing by notice in a newspaper of general circulation in the Subdivision in which the facility or source for which the exception is sought is located. The notice shall include the name of the facility or source and such additional information as the Department may require. Based upon the evidence presented at the hearing the Secretary may grant an exception for a period not to exceed five years to subsection .02B under such other terms and conditions as are appropriate to reduce the impact of the exception.

3. Subsection ___02B shall not apply to emissions of the following:

   a. From the burning of wood in fireplaces on premises used for residential or recreational purposes;

   b. From open fires (except salamanders) permitted under provisions of subsections ___01B, ___01C and ___01D of this regulation.

4. The Control Officer may grant exceptions to ___02C above under the following conditions:

   a. When the application of ___02C to a residential building housing two or less families creates undue economic hardship on individuals residing therein, or

   b. When the installation's primary way of transferring heat is by the radiant method rather than a piped fluid system such as forced hot air, hydronic, or steam. Installations in this category would include stoves, room heaters, floor or wall mounted circulating heaters or similar devices.

02E Visible Emissions from Internal Combustion Engine Powered Equipment.

1. Definitions

   For the purpose of this regulation:

   a. "Internal Combustion Engine", hereafter referred to as "engine" shall mean all engines except those used for propulsion of ships or vehicles licensed to operate upon the public highways within the State, or engines employed solely for agricultural and recreational purposes unless it is an integral part of a stationary installation.

b. "Idle" shall mean the condition during which the engine is not performing useful net work to enable the piece of equipment to accomplish its designated purpose(s).

2. Emissions During Idle Mode

No person shall cause, suffer, allow or permit the discharge of emissions from any engine operating at idle of greater than (10%) opacity or darker in shade or appearance than that designated as No. 1/2 on the Ringelmann Smode Chart except for the allowable discharge of water in an uncombined form.

3. Emissions During Operating Mode

No person shall cause, suffer, allow or permit emissions from any engine, operating at other than idle conditions greater than (40%) opacity or darker in shade or appearance than that designated as No. 2 on the Ringelmann Smoke Chart.

4. Exceptions

a. Paragraph (2) above shall not apply for a period of two consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

b. Paragraph (2) above shall not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:

(1) Engines that are idled continuously when not in service: 30 minutes.

(2) All other engines: 15 minutes

c. Paragraphs (2) and (3) above shall not apply while maintenance, repair or testing is being performed by qualified mechanics.

5. Effective Date

The provisions of this subsection ___02E shall become effective January 1, 1975.

___02F Visible Emissions from Ships

No person or agent shall cause, suffer, allow or permit the discharge of emissions from any ship in excess of the following limits:

175 176

	OPERATING MODE	MAXIMUM OPACITY OR RINGELMANN CHART NO.	ALLOWABLE TIME
(1)	Underway, at berth or at anchor	20% - 1	No limit
(2)	Soot blowing		
	a. Within one mile of any shore while underway	--	No soot blowing allowed
	b. Within first or last 24 hours of arrival at or departure from any berth or anchor	--	
	c. Any other 24 hour period	No limit	No soot blowing allowed 15 minutes for each boiler in operation provided that no nuisance is created.
(3)	Cleaning and adjusting of combustion equipment while at berth or anchor	40% - 2	Not to aggregate more than 4 minutes in any 60 minutes period.
(4)	Start up of cold boiler or engine	60% - 3 No limit	5 consecutive minutes; 10 consecutive minutes additional
(5)	Anchoring, berthing or other maneuvering requiring rapid changes in power	80% - 4	No limit.
(6)	Upset/breakdown, emergency/casualty or Coast Guard safety tests	No limit	No limit. The control officer shall be notified as to the reason for the excessive emissions.
(7)	Docktrials of new or rebuilt boilers or engines.	No limit	No limit provided no nuisance is created and the control officer has been notified before 3:00 p.m. the day before the docktrials are to be conducted.

___03 CONTROL AND PROHIBITION OF PARTICULATE MATTER EMISSIONS

___03A General Conditions. All calculations of particulate matter emissions shall be made in terms of grains per standard cubic foot dry exhaust gas (gr/SCFD).

1. For fuel burning equipment calculations shall be corrected to 50% excess air.

2. For incineration plants and installations calculations shall be corrected to 12% carbon dioxide and as if no auxiliary fuel has been used.

___03B Control of Particulate Matter from Fuel Burning Plants and Installations.

1. General Conditions for Fuel Burning Equipment.

    a. When two or more fuel burning equipment units are connected to a single stack, the combined heat input of all units connected to the stack shall be used to determine the allowable emissions from all the stacks combined shall not exceed that allowable for the same unit if connected to a single stack.

    b. When a single fuel burning equipment units is connected to two or more stacks, the allowable emissions from all the stacks combined shall not exceed that allowable for the same unit if connected to a single stack.

2. *New Fuel Burning Equipment.

    a. No person shall cause, suffer, allow or permit particulate matter caused by the combustion of fuel oil in any fuel burning equipment erected after January 17, 1972 to be discharged into the atmosphere in excess of the amounts shown in Table 1.

    b. No person shall cause, suffer, allow or permit particulate matter caused by combustion of solid fuel in any fuel burning equipment erected after January 17, 1972 to be discharged into the atmosphere in excess of the amounts shown in Table 1.

    c. Dust Collecting Devices Required on New Fuel Burning Equipment.

        (1) No person shall cause, suffer, allow or permit the combustion of residual oil in any fuel burning equipment erected after January 17, 1972 with a maximum

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* Consent order for Firestone Plastics Co., Inc. of Perryville. See nonregulatory section Federal Register Publication 9/4/80.

heat input of 13 x 10^6 BTU/hour or more unless such equipment is fitted with a dust collector, which is so designed that it can reasonably be expected to produce sufficient dust particle force, residence time and particle retention to satisfy the requirements of Table 1.

(2) No person shall cause, suffer, allow or permit the combustion of solid fuel in any fuel burning equipment erected after January 17, 1972 unless such equipment is fitted with a dust collector which is so designed that it can reasonably be expected to produce sufficient dust particle force, residence time and particle retention to satisfy the requirements of Table 1.

3. Existing and Modified Fuel Burning Equipment

No person shall cause, suffer, allow or permit particulate matter caused by the combustion of fuel in any fuel burning equipment existing or modified before January 17, 1972 to be discharged from any stack or chimney into the atmosphere in excess of the hourly rate set forth in the following table.

Heat input in Million BTU per hour	Maximum Allowable Discharge of Particulate Matter in Pounds per million BTU from Existing and Modified Fuel Burning Installations
Up to and including 10	0.60
10,000 and greater	0.12

For a heat input between the heat inputs stated in the preceding table, maximum allowable discharge of particulate matter is shown for existing and modified fuel burning equipment on Figure 1. For the purposes hereof, heat input shall be calculated as the aggregate heat content of all fuels whose products of combustion pass through the stack or chimney.

4. Exceptions.

a. Interruptible Gas Service. Fuel burning equipment burning gas with an interruptible gas service shall be exempt from the provisions of paragraphs .03B(2) and .03B(3).

b. The Control Officer may grant exceptions to ___03B3 above under the following conditions:

(1) When the application of subsection ___03B3 to a residential building housing two or less families creates undue economic hardship on individuals residing therein, or

(2) When the equipment's primary way of transferring heat is by the radiant method rather than a piped fluid system such as forced hot air, hydronic, or steam. Equipment in this category would include stoves, room heaters, floor or wall mounted circulating heaters, fireplaces or similar devices.

c. Fuel burning installations on ships shall be exempted from the provisions of Section .03.

___03C Particulate Matter from Incineration Plants and Installations.

1. New Incineration Plants.

a. No person shall cause, suffer, allow or permit to be discharged into the atmosphere particulate matter to exceed 0.10 gr/SCFD from any new incineration plant "other than pathological" that has a burning capacity less than one ton of refuse per hour and is used to burn less than one ton of refuse per hour and is used to burn less than five tons of refuse per day.

b. No person shall cause, suffer, allow or permit to be discharged into the atmosphere particulate matter to exceed 0.03 gr/SCFD from any new incineration plant that has a burning capacity equal to or greater than one ton of refuse per hour or is used to burn five tons or more of refuse per day.

c. No person shall cause, suffer, allow or permit to be discharged into the atmosphere particulate matter to exceed 0.03 gr/SCFD from any new pathological incineration plant. Medical waste may be burned in such units, provided that the unit has been approved for that purpose by the Department.

2. Existing and Modified Incineration Installations. No person shall cause, suffer, allow or permit to be discharged into the outdoor atmosphere from any existing or modified incinerator the following:

a. From any existing or modified incinerator burning less than 200 pounds of refuse per hour, particulate matter to exceed 0.3 gr/SCFD.

b. From any existing or modified incinerator burning 200 or more pounds of refuse per hour, particulate matter exceed 0.2 gr/SCFD.

___03D Particulate Matter from Agricultural Operations.

2. Control of Orchard Heaters.

General. No person shall cause, suffer, allow or permit to be used any type of orchard heater or other such frost control device which discharges into the atmosphere more than one gram per minute of unconsumed carbonaceous matter.

___03E Particulate Matter from Other Plants and Installations.

1. Other New Plant.[7]

a. No person shall cause, suffer, allow or permit to be discharged into the outdoor atmosphere from any other new process plant, particulate matter in excess of 0.03 gr/SCFD.

b. The maximum allowable weight of particulate matter discharged per hour from any other new process plant shall not exceed that determined from Table 2. Where the process weight per hour falls between two values in the table, the maximum weight discharged per hour shall be determined by linear interpolation. When the process weight exceeds 60,000 pounds per hour, the maximum allowable weight discharged per hour will be determined by the use of the following equation:

$$E = 55.0\,P^{0.11} - 40$$

Where E = Maximum weight discharged per hour (lbs.)
P = Process weight rate in tons per hour

This limitation shall supersede the requirements of section ___030E1a if it requires a lower emission rate per hour.

2. Other Existing and Modified Process Installations.

a. Existing and Modified Bituminous Concrete Manufacturing Installations. No person shall cause, suffer, allow or permit to be discharged into the atmosphere from any existing or modified bituminous concrete manufacturing installation particulate matter in excess of 0.03 gr/SCFD.

b. Other Existing and Modified Installations. [3]

(1) The maximum allowable weight of particulate matter discharged per hour from any other existing or modified process installation shall not exceed that determined from Table 2. Where the process weight per hour falls between two values in the table, the maximum weight discharged per hour shall be determined by linear interpolation. When the process weight exceeds 60,000 pounds per hour, the maximum allowable weight discharged per hour will be determined by use of the following equation:

$$E = 55.0\,P^{0.11} - 40$$

Where E = Maximum weight discharged per hour (lbs.)
P = Process weight rate in tons per hour

(2) For those processes in which the process weight per hour exceeds 60,000 pounds, the maximum allowable weight of particulate matter discharged per hour may exceed that calculated by the above equation providing that the concentration of particulate matter in the gases discharged to the atmosphere is less than 0.05 gr/SCFD.

___03F Particulate Matter From Materials Handling and Construction and Other Acts.

1. No person shall cause, suffer, allow or permit any material to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when appropriate as determined by the Control Officer, but not be limited to the following:

    a. Use of water of chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;

    b. Application of asphalt, oil, water or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can create airborne dusts;

    c. Installation and use of hoods, fans and dust collectors to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting of buildings or other similar operation;

    d. Covering, at all times when in motion, open-bodied vehicles transporting materials likely to create air pollution. Alternate means may be employed to achieve the same results as would covering;

    e. The paving of roadways and their maintenance in a clean condition;

    f. The prompt removal from paved streets of earth or other material which has been transported thereto by trucks or earth moving equipment or erosion by water.

2. No person shall cause, suffer, allow or permit visible emissions beyond the lot line of the property on which the emissions originate.

___04 CONTROL AND PROHIBITION OF GAS, VAPOR AND ODOR EMISSIONS

___04A General.

1. Odors. No person shall cause, suffer, allow or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.

2. General Conditions. All calculations of emissions governed by ___04C shall be adjusted to standard conditions. PPM shall mean parts per million by volume.

___04B Sulfur Oxides from the Burning of Fuel. No person shall burn, sell or make available for sale any fuel unless the following conditions are met:

(1) The combustion of all solid fuels on a premise where the sum total maximum rated heat input of all fuel burning equipment located on the premise is 100 million BTU per hour or greater shall not result in a total emission of oxides of sulfur in excess of 3.5 pounds per million BTU actual heat input per hour.

(2) On and after July 1, 1975, residual fuel oil, 2.0 percent.

(3) Distillate fuel oils, 0.3 percent to July 1, 1980.

(4) Process gas used as a fuel shall contain not more than 0.3% sulfur by weight.

___04C Sulfur Compounds from Other than Fuel Burning Installations.

1. No person shall cause, suffer, allow or permit the discharge into the atmosphere from installations other than fuel burning installations of gases containing more than 500 ppm of sulfur dioxide. Such installations constructed prior to January 17, 1972 shall be limited to not more than 2,000 ppm sulfur dioxide.

2. No person shall cause, suffer, allow or permit the discharge into the atmosphere from installations other than fuel burning installations of gases containing sulfuric acid, sulfur trioxide, or any combination thereof greater than 35 milligrams per cubic meter reported as sulfuric acid. Such installations constructed prior to January 17, 1972 shall be limited to not more than 70 milligrams per cubic meter of sulfuric acid, sulfur trioxide or any combination thereof reported as sulfuric acid.

3. No person shall cause, suffer, allow or permit the discharge of a process gas containing hydrogen sulfide into the atmosphere from a petroleum refinery unless the gas stream is burned in an afterburner at 1300°F for not less than 0.3 seconds or in an equivalent device approved by the Department.

4. No person shall cause, suffer, allow or permit the discharge of process gas containing more than 0.1 gr/SCFD hydrogen sulfide into a petroleum refinery, afterburner or gas collection system connected to an afterburner.

5. No person shall construct equipment such as pumping or compressing equipment handling a hydrogen sulfide-bearing material in petroleum refinery unless the equipment is fitted with mechanical seals, or other sealing devices with equal or greater efficiency approved by the Department.

6. No person shall cause, suffer, allow or permit the use of any safety pressure relief valve on equipment handling hydrogen sulfide-bearing materials in a petroleum refinery at a pressure of 15 lbs. per square inch absolute unless the safety pressure relief valve is vented to a vapor recovery or incineration system, protected by a rupture disc, or is maintained by an inspection system approved by the Department.

___04D Exceptions.

1. Fuels containing sulfur in excess of the amounts specified in ___04B may be burned, sold, or made available for sale provided control equipment to desulfurize stack gases has been installed or other methods or devices are employed by the user or purchaser such that the discharge of sulfur dioxide to the atmosphere does not exceed 0.5 pounds per million BTU of heat input to the associated installation in which such fuel is burned.

2. The Secretary may authorize the operation of a scavenger or recovery plant to reclaim sulfur compounds which would otherwise be discharged into the air provided the operation of such a scavenger or recovery plant would reduce total discharge of sulfur compounds at least 95% with said plant in operation compared to discharge when the aforementioned plant is not operating. Such authorization may result in discharge of sulfur compounds whose concentration exceed those permitted by subsections 1 and 2 of ___04C. This subsection shall not apply to sulfuric acid manufacturing operations.

3. Fuel burning installations on ships and the sale of fuel for such installations shall be exempt from the provisions of this section pertaining to the burning of fuel of specified sulfur content.

4. Paragraphs .04C(3) and .04C(4) shall not apply to the combustion of process upset gas in a flare, or the combustion in a flare of process gas or fuel gas released to the flare as a result of relief valve leakage.

___04E Request for Analysis. Any person offering to sell or deliver fuel or any person responsible for installations in which fuel or process gas is burned shall, upon request, submit to the Department or the Control Officer such analyses of the fuel or process gas as may be required to determine compliance with this section.

___04F Control of Odors from the Reduction of Offal.

1. No person shall cause, suffer, allow or permit the use of an installation primarily engaged in the reduction of offal unless all gases, vapors and gas-entrained matter from said installation are:

   a. First cooled to a temperature of not greater than 160°F and then

   b. The non-condensible fraction is incinerated at a termperature of not less than 1400°F for a period of not less than 0.4 seconds.

   c. Alternate methods may be used if determined by the Department to be equally or more effective for the purpose of controlling air pollution,

2. Any person processing or incinerating gases, vapors or gas-entrained matter as required by subsection ___04F1 shall when ordered by the Department install, operate and maintain in good working order and calibration, continuous recording devices for indicating temperature or pressure or other operating conditions. Such devices shall be approved by the Department and all data collected shall when ordered by the Department be made available to the Department or the Control Officer for inspection or copying. Such data shall be kept on file by responsible persons for at least 60 days.

3. No person shall cause, suffer, allow or permit any offal to be handled, transported or stored or to undertake the preparation of any offal without taking reasonable precautions to prevent odors from being discharged. Such reasonable precautions, when approved by the Department, shall include but not be limited to the following:

   a. Storage of all offal prior to or in the process of preparation in properly enclosed and vented equipment or areas, together with the use of effective devices and/or

methods to prevent the discharge of odors or odor bearing gases.

b. Use of covered vehicles of watertight construction for the handling and transporting of offal.

c. Use of hoods and fans to enclose and vent the storage, handling, preparation and conveying of any odorous materials together with effective devices and/or methods to prevent emission of odors or odor bearing gases.

4. Whenever the emissions from an installation primarily engaged in the reduction of offal create a nuisance or air pollution, beyond the property line, the Department may require that the building in which such installation is located be tightly closed and vented so that all emissions are treated by incineration or by other methods if determined by the Department to be equally or more effective for the purpose of controlling emissions.

5. The requirements of this subsection ___04F shall not apply to any installation engaged exclusively in the processing of food for human consumption.

___04G Nitrogen Oxides From New Fuel Burning Equipment.[11]

a. No person shall cause, suffer, allow or permit the discharge of nitrogen oxides into the atmosphere, from any fuel burning equipment built after May 12, 1972 having a heat input rating of 250 million British Thermal Units (BTU) per hour, or more, in excess of the following rates:

(1) 0.20 pounds per million BTU heat input, maximum two hour average, expressed as NO_2 when gaseous fuel is burned.

(2) 0.30 pounds per million BTU heat input, maximum two hour average, expressed as NO_2 when liquid fuel is burned.

(3) 0.50 pounds per million BTU heat input, maximum two hour average, expressed as NO_2 when solid fuel is burned.

b. Exceptions. Burl burning installations on ships shall be exempt from the provision of this subsection.

___04H Nitrogen Oxides from Nitric Acid Plants.

No person shall cause, suffer, allow or permit the discharge into the atmosphere from any nitric acid plant, nitrogen oxides in excess of 3.0 pounds per ton of acid (100 percent basis) produced.

.04I Reserved

.04J Hydrocarbons From Other than Fuel Burning Equipment

1. Definitions for purposes of these regulations:

   a. "Organic Material" shall mean chemical compounds of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbonates, metallic carbides and ammonium carbonates.

   b. "True Vapor Pressure" shall mean the absolute pressure in pounds per square inch determined at storage conditions. Storage conditions shall be taken as the average monthly temperature. If the storage is subject to solar and ambient heat gain only, the temperature shall be taken as the average monthly temperature, to a maximum average of 78°F (average storage temperature for May through September). True vapor pressure shall be determined by measurement at the storage conditions or by the use of a nemograph, published by the Coordinating Research Council and included with these regulations as Figure 3, relating true vapor pressure to Reid vapor pressure and storage temperature.

2. Organic Material

   a. After July 1, 1974, no person shall cause, suffer, allow or permit organic material having a true vapor pressure in the range of 1.5 to 11 psi inclusive to be placed, stored or held in any new stationary tank reservoir with a capacity of greater than 40,000 gallons unless the tank is equipped with one or more of the following organic material vapor control devices, properly installed, well-maintained and in operating condition.

      (1) A floating roof resting on the surface of the liquid contents equipped with a closure seal, or seals, to close the space between the roof edge and tank wall, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

      (2) A pressure tank system maintaining a pressure at all times so as to prevent organic material loss to the atmosphere, or

      (3) A vapor recovery system capable of collecting the organic materials emitted from the tank and disposing of these emissions so as to prevent their emission to the atmosphere and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(4) Other equipment equal or greater in efficiency to those devices listed above, and approved by the Department.

b. After July 1, 1974 no person shall cause, suffer, allow or permit organic materials having a true vapor pressure greater than 11 psi to be placed, stored or held in any new stationary tank reservoir with a capacity greater than 40,000 gallons unless equipped with one of the following organic material vapor control devices properly installed, well-maintained and in operating condition:

(1) A pressure tank system maintaining a pressure at all times so as to prevent organic material loss to the atmosphere, or

(2) A vapor recovery system capable of collecting the organic materials emitted from the tank and disposing of these emissions so as to prevent their emission to the atmosphere, and in addition, all tank gauging and sampling devices shall be gas-tight except when in use, or

(3) Other equipment equal or greater in efficiency to those devices listed above, and approved by the Department.

___04K Use of Waste Oils as Fuel

1. No person shall burn, sell, or make available for use as fuel in any installation any waste oil including but not limited to, used petroleum products, crank case draining, cutting oils, vegetable oils, or combustible fluids salvaged from any automotive or industrial use without obtaining the prior approval of the Department.

2. Any person desiring to use waste oil as a fuel in any installation shall, prior to the use thereof, submit to the Department such information and analysis as the Department may require.

3. After consideration of the information submitted by a prospective user of waste oil the Department shall enter an Order approving or disallowing the use of such fuel or approving its use with such conditions as the Department finds necessary. In the event the Department shall disapprove or condition the use of such fuel a person aggrieved by the Order may request a hearing within 10 days after receipt of the Order. Where a hearing is requested, it shall be held pursuant to Article 43, Section 698(c) (d) of the Annotated Code of Maryland:

___05 RESERVED

___06 CONTROL AND PROHIBITION OF INSTALLATIONS AND OPERATIONS

___06A General. No installation or premise shall be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation shall in any manner be construed as authorizing or permitting the creation of or maintenance of a nuisance or air pollution.

___06B Circumvention. No person shall install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total weight of emissions, conceals or dilutes an emission which would otherwise constitute a violation of any applicable air pollution control regulation.

___06C Refuse Burning Prohibited in Certain Installations. No person shall burn refuse in any plant, installation or equipment not specifically designed, constructed or modified for that purpose.

___06D Prohibition of Certain New Fuel Burning Equipment.

1. No person shall contruct a new fuel burning equipment designed for use of residual fuel oil in which any individual furnace has a

rated heat input of less than five million BTU per hour nor shall residual fuel oil be used at any time in any new fuel burning equipment having a rated heat input of less than thirteen million BTU per hour.

2. No person shall construct a new fuel burning equipment designed for use of a solid fuel in which any individual furnace has a rated heat input of less than 150 million BTU per hour nor shall a solid fuel be used at any time in any new fuel burning equipment having a rated heat input of less than 150 million BTU per hour.

3. No person shall construct fuel burning equipment fitted with a rotary cup burner or replace a burner with a rotary cup burner.

___06E Control of Sources of Fluoride Emissions.

1. No person shall cause, suffer, allow or permit the discharge into the atmosphere of fluorides from any installation in such combinations and in such amounts that any provision of the ambient air quality standards for fluorides set forth in 10.03.35.04E is controvened.

2. Surveillance

   a. Existing Installation Surveillance Program.

      A person responsible for an installation discharging fluorides shall conduct a continuing environmental surveillance program, in a manner approved by the Department, to determine whether ambient air quality standards for fluorides are violated.

   b. New Installation Surveillance Program.

      No "Permit to Construct" will be issued for any new potential source of fluoride emissions until the applicant has conducted a survey of background levels of fluoride in the environment in a manner and to an extent approved by the Department. Applicants for a "Permit to Operate" shall be subject to the requirements of ___06E2a.

   c. Reporting.

      All data collected by the environmental programs and surveys of fluorides, required by this subsection, shall be maintained and made available to the Department in a manner and on a schedule approved by the Department. Such data shall be available to the public.

   d. Modification of Surveillance Programs.

      Any modification to the environmental programs and surveys, required under this subsection, must be approved by the Department. Such modification may be initiated by the Department.

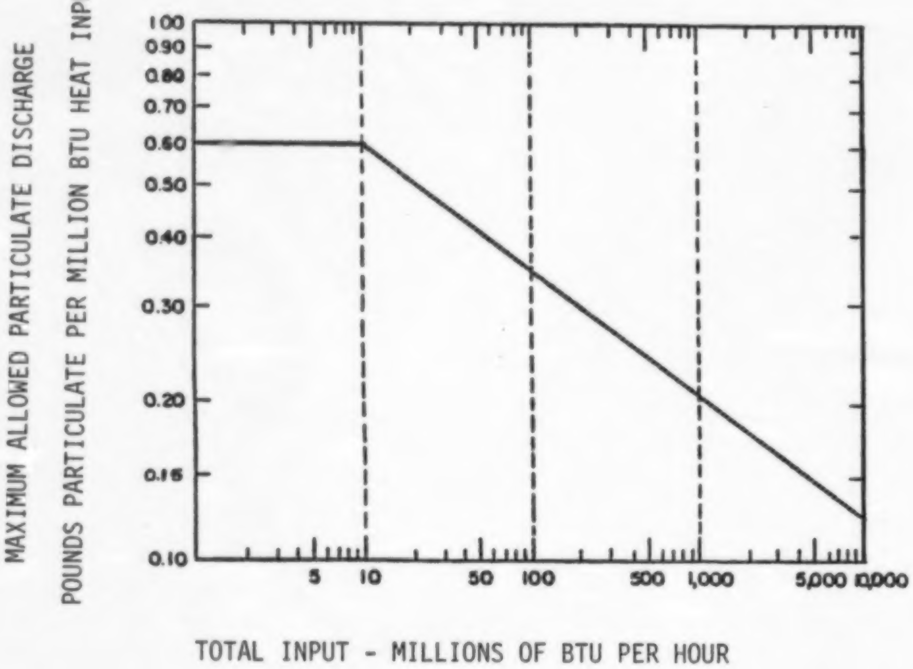
___07 TRANSITION FROM PREVIOUS REGULATIONS

___07A Previous Plans for Compliance. All plans for compliance with regulations 43P03 as it became effective on January 28, 1969, which have been approved by the Secretary shall be evaluated by the Department. Any part of such plans which the Department determines relate to an installation which is subject to more restrictive emission control requirements under the terms of this amended regulation 10.30.37, as compared to the respective requirements of regulation 43P03 as it became effective on January 28, 1969, will be null and void. If a plan for compliance is declared null and void, an amended plan may be submitted to the Department.

___07B Previous Regulations Remain in Effect in Certain Cases. Provisions of regulation 43P03 as adopted on January 28, 1969 shall remain in effect with regard to installations, plants and matters dealt with in these amendments until the effective dates provided for by these amendments are applicable to the respective plants, installations or matters.

MAXIMUM ALLOWED DISCHARGE OF PARTICULATE MATTER FROM EXISTING AND MODIFIED FUEL BURNING EQUIPMENT

(Installation built before January 17, 1972)



EMISSION STANDARDS AND DUST COLLECTOR PERFORMANCE STANDARDS FOR NEW FUEL BURNING EQUIPMENT

(Equipment Built on or After January 17, 1972)

Equipment Description	Maximum rated heat input in million BTU per hour per furnace	Effective Date of Standard	Max. allowable emissions of part. matter - gr/SCFD	Max. allowable emission; Shell Bacharach Smoke Spot test number (b)	Required collection efficiency of dust collector (c)
Residual oil burning (a)	Less than 13	Jan. 1, 1975	No requirement	4	No requirement
	13 - 50	Oct. 1, 1972	0.025	4	60% or more
	> 50 - 250	Oct. 1, 1974	0.020	4	70% or more
	greater than 250	Jan. 17, 1972	0.010	4	80% or more
Distillate oil burning	All sizes	Jan. 17, 1972	No requirement	2	No requirement
Solid fuel burning	All sizes (d)	Jan. 17, 1972	0.030	No requirement	99% or more

(a) Construction of residual oil fired units of less than 13 million BTU per hour prohibited (See __.06D(1).)

(b) The method used shall be D-2156 as published by the American Society for Testing and Materials.

(c) Collection efficiencies for residual oil burning units determined assuming a minimum inlet grain loading of 0.06 gr/SCFD.

(d) Construction of solid fuel fired units of less than 50 million BTU per hour prohibited (See __.06D(2).)

Relates to section .03.

Table 2

MAXIMUM ALLOWABLE WEIGHT OF PARTICULATE MATTER DISCHARGED PER HOUR

Process Wt/hr (lbs)	Maximum Weight Disch/hr (lbs)	Process Wt/hr (lbs)	Maximum Weight Disch/hr (lbs)	Process Wt/hr (lbs)	Maximum Weight Disch/hr (lbs)
50 or less	0.24	1900	4.03	4700	6.45
100	0.46	2000	4.14	4800	6.52
150	0.66	2100	4.24	4900	6.60
200	0.85	2200	4.34	5000	6.67
250	1.03	2300	4.44	5500	7.03
300	1.20	2400	4.55	6000	7.37
350	1.35	2500	4.64	6500	7.71
400	1.50	2600	4.74	7000	8.05
450	1.63	2700	4.84	7500	8.39
500	1.77	2800	4.92	8000	8.71
550	1.89	2900	5.02	8500	9.03
600	2.01	3000	5.10	9000	9.36
650	2.12	3100	5.18	9500	9.67
700	2.24	3200	5.27	10000	10.00
750	2.34	3300	5.36	11000	10.63
800	2.43	3400	5.44	12000	11.28
850	2.53	3500	5.52	13000	11.89
900	2.62	3600	5.61	14000	12.50
950	2.72	3700	5.69	15000	13.13
1000	2.80	3800	5.77	16000	13.74
1100	2.97	3900	5.85	17000	14.36
1200	3.12	4000	5.93	18000	14.97
1300	3.26	4100	6.01	19000	15.58
1400	3.40	4200	6.08	20000	16.19
1500	3.54	4300	6.15	30000	22.22
1600	3.66	4400	6.22	40000	28.30
1700	3.79	4500	6.30	50000	34.30
1800	3.91	4600	6.37	60000	40.00
				*	
				**	

Relates to ___03E

* For New Plants, process weight in excess governed by equation presented in 10.03.40 03E1b.

** For Modified and Existing Installations, process weight in excess governed by 10.03.40 03E2b.

Table 3

Ambient Air Quality Standards

Pollutant	Frequency Times values may be exceeded per unit time	More Adverse Range				Serious Level		Conversion Factor
		ug/m^3		ppm		ug/m^3	ppm	
		Lower Limit	Upper Limit	Lower Limit	Upper Limit			
1. Sulfur oxides (expressed as sulfur dioxide concentrations)								
Annual Arithmetic Average[1]	Values not to be exceeded	39	79	0.015	0.03	79	0.03	$\frac{ug/m^3}{2620}$ = ppm
Daily Average	Once per year	131	262	0.05	0.10	262	0.10	
One Hour Average	Once per month	262	525	0.10	0.20	525	0.20	
2. Particulate Matter a. Suspended Particulate								
Annual Arithmetic Average	Values not to be exceeded	65	75	-	-	75	-	
Daily Average	Once per year	140	160	-	-	160	-	

Table ont'd

Pollutant	Frequency Times values may be exceeded per unit time	More Adverse Range Lower Limit	 Upper Limit	Serious Level		Conversion Factor
b. Dustfall		$mg/cm^2/month$		$mg/cm^2/month$		
Annual Arithmetic Average	Values not to be exceeded	0.35	0.50	0.50		$\frac{mg/cm^2}{.035} = ton/mi^2$
Monthly Average	Values not to be exceeded	0.70	1.00	1.0		
3. Carbon Monoxide 8-Hour Arithmetic Average 2	Once per year	No standard		mg/m^3 10	ppm 9	$mg/m^3 \times 0.873 = ppm$
Hourly Average	Once per year	No standard		40	35	
4. Non-methane Hydrocarbons[3] 3-Hour Average[4]	Once per year	No standard		ug/m^3 160	ppm Carbon 0.24	$\frac{ug/m^3}{655} = ppm$
5. Photochemical Oxidants				ug/m^3	ppm Ozone	
Hourly Average	Once per year	No standard		160	0.08	$\frac{ug/m^3}{1960} = ppm$
6. Nitrogen Dioxide				ug/m^3	ppm	
Annual Arithmetic Average	Values not to be exceeded	No standard		100	0.05	$\frac{ug/m^3}{1882} = ppm$

References

1. Annual averages shall be for the calendar year for all pollutants.

2. Applies in areas representing generalized atmospheric levels; 20 ppm applies in any other place where members of the public congregate for extended periods of time.

3. The standards set forth in this regulation for hydrocarbons are not based upon the direct adverse effects of hydrocarbons but upon an empirical relationship, based upon ambient air quality measurements, between morning hydrocarbon concentrations and oxidant concentrations occurring later the same day. The hydrocarbon standard is designed primarily to achieve the standard for photochemical oxidants. In view of the lack of an exact quantitative relationship, the uncertainties in existing measurement techniques and a lack of full identification of the photochemically reactive species of hydrocarbons occurring in the ambient air in the region, these levels should be considered as tentative pending further scientific developments.

4. Three hour period: 6 a.m. to 9 a.m. Eastern Standard Time.